DOCUMENT RESUME

ED 436 658 CE 079 515

AUTHOR Camp, William G., Ed.
TITLE American Vocational Education Research Association (AVERA) Annual Research Meeting in Conjunction with the Annual Convention of the Association for Career and Technical Education. Proceedings (Orlando, Florida, December 11-13, 1999).
INSTITUTION American Vocational Education Research Association.
PUB DATE 1999-12-00
NOTE 133p.
PUB TYPE Collected Works - Proceedings (021) -- Reports - Research (143)
EDRS PRICE MF01/PC06 Plus Postage.
DESCRIPTORS Agricultural Education; *Career Education; Classroom Techniques; *Education Work Relationship; Educational Needs; Employment Potential; Foreign Countries; Job Skills; Labor Force Development; Marketing; Office Occupations Education; Performance Factors; Postsecondary Education; Secondary Education; Teacher Certification; *Vocational Education; Vocational Education Teachers
IDENTIFIERS Jamaica; Zimbabwe

ABSTRACT

This document contains 14 research papers presented at the American Vocational Education Research Association (AVERA) annual meeting. The following papers are included: "Factors that Influence Students to Attend 4-Year Automotive Programs" (Gregory G. Belcher, Robert L. Frisbee); "The Training Needs of Vocational Teachers for Working with Special Needs Learners" (Samuel E. Cotton); "High Schools that Work: Improving Skills in Reading, Mathematics, and Science in Agricultural Education Students" (James Flowers); "Development of a Perceived Needs Instrument for Georgia's Adult Agriculture Program" (Teresa Lynn Hamlin, Robert Wicklein); "Feedback Seeking in Training Settings" (K. Peter Kuchinke); "Philosophical Foundations of Human Resource Development" (K. Peter Kuchinke); "Life After College: Career Expectations of Division I African American Football Players" (Brenda A. Martin); "Large-Scale State Government Survey of Office Workers' Training Needs: Implication for Vocational Education" (Donna H. Redmann); "Academic and Agricultural Education in North Carolina" (Dana L. Roberson, Jim Flowers, and Gary E. Moore); "Negotiating the Transition from School-to-Work: Career-Related Characteristics and Postsecondary Attainment of Work-Bound Youth" (Jay W. Rojewski); "Concerns of Traditionally and Alternatively Certified Marketing Education Teachers" (Allen D. Truell); "Initiatives That Assist and Barriers That Hinder the Successful Transition of Minority Youth into the Workplace" (Rose Mary Wentling, Consuelo Waight); "Employability Skills Required for the 21st Century Jamaican Workforce: Implications for Education and Training" (Claudette Williams-Myers); and "Perceptions of Technical Education Professionals Regarding the Purposes of Technical Education Programs in Zimbabwe's Secondary Schools" (Davison M. Mupinga). The articles include abstracts and lists of references. (KC)

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AVERA

American Vocational Education Research Association

An Affiliate of the Association for Career and Technical Education

1999
PROCEEDINGS
AVERA ANNUAL RESEARCH MEETING

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In Conjunction with the Annual Convention of the Association for Career and Technical Education
Orlando, Florida

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FACTORS THAT INFLUENCE STUDENTS TO ATTEND FOUR-YEAR AUTOMOTIVE PROGRAMS

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The purpose of this study was to identify effective recruitment techniques as reported by students within baccalaureate automotive technology programs. Participants in the study were 382 students (Freshman through Seniors) of eight universities in the United States that offer automotive technology baccalaureate degrees. Reputation of the automotive program, job placement/career opportunities, and referral of a high school automotive teacher were found as critical influential recruitment factors.

Technology is rapidly growing in all areas. With this growth, many different occupations are being affected. Automotive technology is an occupation that is being greatly affected by changing technology and industry standards. Current automobiles are a challenge to repair because of the advanced technology, but the future automobile will be even more complicated than these. Examples of this advanced technology includes; navigational systems that use Global Positioning Satellites; electronic traffic monitoring; and automatic braking and steering systems (Riley, 1995). This advanced technology will require automotive technicians to have greater skills and knowledge in this area. This creates the need for individuals who are working in the area of service management to have advanced knowledge and skills as well. Service managers and technicians with advanced technical skills on automobiles are in demand and it is anticipated this demand will continue to grow in the future (Cornish, 1996).

To meet demands for these workers, schools need to be preparing individuals within these areas. Enrollment in these programs is needed so as to prepare enough individuals to meet the future demands. Research by Butler, Izadi, and Toosi (1994) sought to determine whether enrollment in Industrial Technology (for which automotive technology is a part) was a current concern. They conducted a national study that included 18 of the 20 accredited Industrial Technology programs in the country. Of the 73 rankings, "What recruiting strategies have proven successful in attracting high school students in two-year and four-year Industrial Technology programs?" was ranked number eighteen.

Eight universities in the United States currently offer baccalaureate degrees in Automotive Technology. Each of the automotive department heads at these universities was contacted prior to this study and they stated that the optimum enrollment for their program was higher than their current enrollment. All department heads indicated the extensive demand for their students upon graduation as well.

Theoretical Framework

Student Enrollment Behavior Theory

The concern for student count both generally in universities and in technology areas has been addressed in recent research. Because of this concern, a technology educator must study student enrollment behavior theory. This section will look at the prominent models of enrollment behavior.

Student Enrollment Behavior Theory Models

Models for student enrollment behavior theory started to emerge in the early 1980's (Paulsen, 1990). Several multi-stage models began to develop (Hanson & Litten, 1982; and Kotler & Fox, 1985). However, Hossler and Gallagher, (1987) and Jackson, (1982) developed a 3-stage model that has become the most widely accepted model in enrollment behavior. The steps include: a) college aspiration, b) search and application, and c) selection and attendance.

Stage 1 - College aspiration. The first stage of student choice is the college aspiration stage. This stage typically involves the student from early childhood through high school. In this stage, the student decides whether he/she wants to attend college or not (Hossler, Bean, & Assoc., 1990). The biggest factors that affect the decision are: a) family background, b) academic ability, and c) high school and neighborhood context (Paulsen, 1990).

Stage 2 - Search and application. Once the student has decided that he/she will attend college, he/she enters the second stage, which is the "search and application" stage. In this stage the students begin to seek and acquire information about colleges that they are considering (Hossler, Bean, & Assoc., 1990). Institutional characteristics are important in this stage; Ihlanfeldt (1980) identified four major characteristics that affect the second stage decisions. The first major characteristic is the programs or fields of study. Students narrow their choices down based on what subject area they are interested in studying. The second major area is the quality or reputation of the program or university. Students are concerned about the quality of the education that they will receive and the reputation of their degree. The area that affects this decision is the cost of going to a specific school. Cost include tuition and living at the university. The fourth characteristic that is important is the location of the university. Most students prefer to go to college close to home. The location of the school is a determining factor in stage two of the model.

Stage 3 - Selection and attendance. The third stage of "selection and attendance" is the final stage. This stage incorporates the student's decision or actual choice of a university from the colleges that actually accepted them as a student. Research has indicated there are ten major attributes of institutions that strongly influence the student's decision in the final selection. These ten attributes are: a) cost, b) financial aid, c) programs, d) size, e) location, f) quality, g) social atmosphere, h) athletics, i) religious emphasis, and j) jobs available (Paulsen, 1990).

Problem Statement

Recruitment efforts are a major component for enhancing enrollment. However, crucial recruitment factors within baccalaureate automotive technology areas have not been identified, nor is it known whether the successful recruitment factors that have been identified for academic programs can be generalized to four-year automotive technology students.

Purpose of Study

The purpose of this study was to identify effective recruitment factors as reported by students within baccalaureate automotive technology programs. Though both two-year and four-year automotive programs are important, this study looked at the recruitment factors that enhanced the student's decision to attend four-year automotive programs. The primary objective of this study was to identify how four-year automotive students rated the influence that different components or techniques had on them in attending a four-year program.

Factors That Influence Student Enrollment Behavior

From the literature, the following sixteen items that influence enrollment behavior were chosen. An additional item, reputation of automotive program, was added based upon the recommendation of the panel of experts. Recruitment items include: (a) friend(s) at university/community college or high school (b) reading this university's catalog, (c) high school/community college counselor/teacher, (d) parent(s)/relatives, (e) alumni of this university, (f) reputation of automotive program, (g) technology recruitment activities, (h) university recruiters visiting my high school, (i) athletic advisor/coach, (j) admission office at this university, (k) campus visit, (l) reputation of the university, (m) university recruiters visiting my community college, (n) community in which university is located, (o) bulletin board advertising at my previous school, (p) promotional materials (brochures, letters, videos), and (q) articulation or direct transfer from community college.

Friend(s) at university/community college or high school

Litten (1989) notes that prospective students regard currently enrolled students as one of the best sources of information about a school. "Targeted peer recruitment can be one of the most effective means of marketing. Its success can be attributed to the fact that current students are current consumers, are close in age to the prospective students, and usually "tell it like it is" when discussing college" (Hossler, Bean, & Assoc., 1990, p. 106). Edmund's (1980) study supported these statements and it found that a highly influential factor for a student choosing a 4-year technical degree was that college students recruited other college students and/or college students recruited high school students.

Reading this university's catalog

Hossler, Bean, & Associates (1990) identified the schools catalog as one type of publication that may move the prospective student from inquiry to application. Paulsen (1990) reported that college publications as one of the six most preferred information source for both parents and students.

High school/community college counselor/teacher

Alumni play a strong role in influencing students on college selection. Teachers (especially technology education or industrial arts teachers) who are alumni have a strong influence (Devier, 1982; Edmunds, 1980; and Isbell & Lovedahl, 1989). These past three studies all found that the number one influence of recruitment into university industrial arts/technology education programs came from high school industrial arts/technology education teachers.

Devier (1982) found: "College personnel contacts with industrial arts teachers, especially alumni, also had the highest effectiveness rating from the students" (p. 30). Edmunds (1980) found: "The most effective means of recruitment was judged to be contacts with industrial arts teachers who are alumni" (p. 19). Isbell and Lovedahl (1989) found: "... the technique that received the highest ranking was referral, by high school industrial arts/technology education teachers" (p. 38). In the area of Industrial Technology, Izadi and Toosi (1995) indicated the third most effective recruitment technique in their study was the high school counselor/teacher. Demuth's (1986) study of recruitment into area vocational/technical schools also found that high school counselors ranked seventh, and high school teachers ranked eighth.

Parent(s)/relatives

Research strongly suggested that parents have a strong effect on a student's choice of colleges (Hossler, Bean, & Assoc., 1990; Major, 1991; Mitchell, 1994; and Speelman & Stein, 1993). It was also found by Mitchell's (1994) that parents were ranked second as influencing students not to attend an area technical school. Sander's (1985) study on influences of decisions to attend 4-year mechanical power technology programs found that parents ranked eighth out of 25 influences.

Alumni of this university

Past studies have emphasized that alumni of the university are an important aspect of promotion and recruitment for schools (Devier, 1982; Edmunds, 1980; Hossler, Bean, & Assoc., 1990; and Isbell & Lovedahl, 1989). Isbell and Lovedahl (1989) found that former students were consistently ranked within the top three recruitment techniques in their study of 169 universities. Devier (1982), in his study on recruitment in industrial arts programs indicated teachers who were alumni tended to be important recruitment tools. Edmund's (1980) previous study agreed with Devier's in this aspect and stated that one of the most effective means of recruitment was from industrial arts teachers who were alumni.

Reputation of automotive program

Reputation of the automotive program was not an initial influencer that was identified from the literature. Several of the students who were a part of the panel of experts emphasized that the reputation of the automotive program had a strong influence on them attending a four-year automotive program. Based upon this response, the reputation of the automotive program was included in this survey.

Technology recruitment activities

Izadi and Toosi (1995) indicated that recruitment activities from the specific technology programs were important to student recruitment. These activities could vary but the specific technology programs were responsible for them.

University recruiters visiting my high school

Hossler, Bean, & Associates (1990) stated that individual visits to high schools by admission personnel were a useful method to recruit students. These visits may also include college days and fairs that are staffed by admission personnel, alumni or qualified volunteers.

Athletic advisor/coach

Izadi & Toosi (1995) identified the athletic advisor/coach as another influencer of students attending certain post-secondary education entities. This was one of sixteen influencer used in their study.

Admission office at this university

Paulsen (1990) reported that the officers from the admission office were one of the six most preferred information sources. Hossler, Bean, & Associates (1990) stated that individuals within the admissions office played significant role in selling the university and its programs to perspective students.

Campus visit

Research indicates that having prospective students on campus is one of the most effective recruitment tools. (Hossler, Bean, & Assoc., 1990; Isbell & Lovedahl, 1989; Litten, 1989; Mobley, 1988; Wanat & Bowles, 1992; and Williams, 1993). Wanat and Bowles (1992) found that campus visits were viewed as the most powerful source of information in helping students to make a decision about a school and the most effective recruiting activity used by college admission officers. Craft (1980) also stated that tours of college or university industrial laboratory facilities by prospective students rank high in influences on students. Hossler, Bean, & Assoc. (1990) further supported this and stated that the campus visit is the most influential factor for a students to decide to enroll in a college or university.

Reputation of the university

The image and/or reputation of an institution can play a key role in the college selection process. Paulsen (1990) described a comprehensive study of 3,000 high school seniors. They were asked to examine and rank by importance a list of 25 institutional characteristics. Among the eight top responses were the general academic reputation and faculty teaching reputation.

University recruiters visiting my community college

Hossler, Bean, and Assoc. (1990) stated individual visits by admission representatives to community colleges and companies can be a useful method for recruiting students. Past studies indicated that a visit either to a college or high school was an influencer to students attending that university (Williams, 1993; Craft, 1980).

Community in which university is located

When looking at institutional characteristics, Paulsen (1990) indicated that students ranked the distance from their home to the university high. He also stated that colleges become less attractive to students as the distance from home to college increases. Ihlanfeldt (1980) also stated that university location was one of four characteristics that were of pivotal importance.

Bulletin board advertising at my previous school

Izadi & Toosi (1995) identified that bulletin board advertising as influencer of students to attend universities. These bulletin boards could either be located at a community college or high school.

Promotional materials (brochures, letters, videos)

Promotional videotapes have been used to market specific programs to encourage enrollment (Hossler, Bean, & Assoc., 1990; Owens, 1988, 1989; and Mobley, 1988). Mobley (1988) stated that a student-oriented video tend to raise the general interest of students in technology/vocational classes. He further stated that the development of a video to recruit females into the Industrial Technology program at Southeastern Louisiana University resulted in a 50% increase in female enrollment into the Industrial Technology program.

Written communications can take on varying forms in the area of recruitment. Personalized letters from the university to a prospective student can by effective in recruitment and attainment (Mobley, 1988). Isbell and Lovedahl (1989) recommended in their study that faculty should keep in touch with students who are recommended or inquire about a program. They further stated that interested high school students should be invited, through personalized letters, to visit the department.

Articulation or direct transfer from community college

Articulations between schools or 2+2 or 2+2+2 and school-to-work programs have also worked well as recruitment tools (Bickart, 1991; Isbell & Lovedahl, 1989; and Shaw, 1994). Bickart (1994) recommended that faculty utilize articulation. He stated that partnerships between industry and the K-12 schools would enrich their academic preparation for the study at the university. He also emphasized that articulation should continued to be developed or expanded from transfer programs with community colleges. Shaw's (1994) research of articulation into Industrial Technology programs indicated the importance of using articulation as a tool in recruitment. He stated that involvement in 2+2+2 tech-prep projects should be an important priority of the university. Isbell and Lovedahl's (1989) recommended that faculty should continue to articulate their programs to community and technical schools because these are a valuable resource for transfer students.

Method

Population

The target population for this study was the eight universities in the United States that offer Automotive Technology baccalaureate degrees. The eight schools included the following: (1) Ferris State University in Big Rapids, MI, (2) Pittsburg State University in Pittsburg, KS, (3) Southern Illinois University at Carbondale in Carbondale, IL, (4) University of Southern Colorado in Pueblo, CO, (5) Central Missouri State University in Warrensburg, MO, (6) Weber State University in Ogden, UT, (7) Montana State University -

Northern in Havre, MT, and (8) Indiana State University in Terre Haute, IN. All freshmen, sophomores, juniors and seniors from each school were asked to participate in the study (N=607).

The highest response category consisted of seniors (42.1%), followed by juniors (24.1%), sophomores (17.5%), and freshman (16.2%). Of the students that responded, the majority were males (94.8%) and a white racial/ethnic background (88.0%).

Instrumentation

The survey instrument used in this study was developed from previously published instruments (Bickert, 1991; Carter & Garigan, 1979; Devier, 1982; Isbell & Lovedahl, 1989; Izadi & Toosi, 1995; Sanders, 1986; Speelman & Stein, 1993; Williams, 1980). The following five-part Likert-type scale was used for students to rate the importance of seventeen recruitment items: 1= not important, 2=slightly important, 3=important, 4=quite important, and 5=very important.

Validity and Reliability

A panel of experts was used to establish content and face validity for the survey. The panel consisted of three four-year automotive faculty, twenty of the four-year automotive students, one admission/recruitment specialist, one technical education faculty, four occupational and adult education faculty. The panel of experts was asked to confirm that the instrument had clearly defined items, make suggested changes to items, offer suggestions for the addition or deletion of items and make comments relevant to the overall format and appearance of the instrument. It was recommended by the students who participated in the panel of experts that an additional item "Reputation of Automotive Program" be added to the instrument.

After revisions were made to the instrument, it was pilot tested with a group of twenty students within the four-year automotive program at Pittsburg State University. To measure internal consistency, a Cronbach's alpha was calculated, resulting in r = .84.

Procedure

The department chairpersons for each of the eight universities were contacted by telephone by the researcher on January 27, 1997 to request their participation in this study. At this time, the chairpersons were asked the number of students in their four-year automotive programs. This allowed for the correct number of instruments to be sent to each school. On January 29, 1997 a packet of instruments were sent to each department chairperson with instructions on how to administer the instrument. Telephone calls to each department chairperson were made to obtain the best return rate possible. All eight of the universities agreed to participate. Of the 607 student surveys sent, 383 (63.09%) were returned. Of the 383 student surveys returned, 382 (99.74%) were usable. There was no attempt to follow-up non-respondents. Results will only be generalized to the respondents.

Results

Recruitment items (Table 1) that students indicated as very important included; Reputation of the Automotive program (62.3%), Reputation of the University (40.6%), and Parents/Relatives (24.1%). Parents/Relatives was almost a bi-modal item between the response categories of very important and quite important. A recruitment item indicated by students as quite important was Campus Visit (31.7%). Twelve of the recruitment items had a modal response in the not-important category.

Conclusions

Based upon the findings, it can be concluded that there are four recruitment items that four-year automotive students are influenced by: (a) reputation of the automotive program, (b) reputation of the university; (c) parents and relatives, and (d) campus visit. This differs from past research mainly because reputation of the specific program was not included in past research. As a reminder, the recruitment item "reputation of automotive program" was added because of suggestions from the panel of experts.

Reputation of the Automotive Program and University

The reputation of the automotive program was the most influential recruitment factor to the participants followed by the reputation of the university. There were no references from past research that included specific program reputation such as the automotive program. Past research agreed with what was found in this study pertaining to reputation of the university. Paulsen (1990) and Wanat and Bowles (1992) indicated that this was an important recruitment item. Automotive program recruiters should be aware of how influential the reputation of their program is to prospective students and take steps to bolster their reputation.

Parents and Relatives

This study yielded similar results in that parents and relatives are influential factors in students attending educational programs. Gray & Herr (1995) and Speelman & Stein (1993) found in their studies that parents continue to have a strong influence over the career or school choice that students make.

Campus Visits

Students indicated that campus visits were quite important to them in deciding to attend the four-year automotive program of their choice. This agrees with past research that indicated that having prospective students on campus is one of the most effective recruitment tools (Craft, 1980; Edmunds, 1980; Hossler, Bean, & Assoc., 1990; Isbell & Lovedahl, 1989; Litten, 1989; Mobley, 1988; Wanat & Bowles, 1992; and Williams, 1993). In addition to this, Wanat and Bowles (1992) stated that campus visits were viewed as the most powerful source of information in helping students to make a decision about a school and the most effective recruiting activity used by college admission officers.

Twelve of the items on the survey had modal responses of not important. It can be concluded that the respondents from this survey deem these as items of little influence to them attending a four-year automotive program. These findings are different than the findings of past research in the area of recruitment of students. This suggests that different items may influence students in different educational programs. Information such as this is important to university recruiters in that different influences within program areas may differ between these programs.

Two specific items dealt with community college students only. These were "university recruiters visiting my community college" and "articulation or direct transfer from community college." Both of these were indicated as not important within this study. An unknown factor here was the number of students that transferred from the community college level. If the number of transfer students was low, this is self-explanatory. If the number of transfer students was high, this would indicate to the four-year automotive programs that articulation and visits to community colleges might be of little importance as a recruitment tool.

Recommendations

Persons who are involved in Automotive Technology recruitment should become familiar with the findings of this study. In order to enhance the recruitment of students, specifically for four-year Automotive Technology programs, there are certain areas that these recruiters should focus their time and efforts on. Each of these areas will be discussed individually.

The reputation of the automotive programs can be communicated to the prospective student in several ways. Examples may include: (a) placement statistics printed and made available to the students; (b) ranking of the programs made available to the students; and (c) reputation of the program and career opportunities should be emphasized as faculty visit high schools and share with the high school or community college students.

Recruiters need to remain aware of the influence that parents and relatives have over prospective students. While communicating with perspective students about the program, they also need to be including parents in these communications as well.

Table 1 Student Response to Recruitment Items

Recruitment Items	Non-Response		Not Important		Slightly Important		Important		Quite Important		Very Important	
	f	%	f	%	F	%	F	%	F	%	F	%
Reputation of Automotive Program	1	0.3	10	2.6	15	3.9	31	8.1	87	22.8	238	62.3
Reputation of the University	1	0.3	30	7.9	28	7.3	63	16.5	105	27.5	155	40.6
Parent(s)/Relative(s)	4	1.0	69	18.1	39	10.2	87	22.8	91	23.8	92	24.1
Campus Visit	3	0.8	57	14.9	37	9.7	79	20.7	121	31.7	85	22.3
Reading University Catalog	2	0.5	77	20.2	79	20.7	119	31.2	76	19.9	29	7.6
Athletic Advisor/Coach	2	0.5	233	61.0	52	13.6	53	13.9	30	7.9	12	3.1
Bulletin Board Advertising at my Previous School	5	1.3	226	59.2	35	9.2	61	16.0	36	9.4	19	5.0
University Recruiters Visiting My Community College	3	0.8	221	57.9	32	8.4	50	13.1	43	11.3	33	8.6
Articulation or Transfer from Community College	2	0.5	190	49.7	27	7.1	71	18.6	46	12.0	46	12.0
University Recruiters Visiting High School	2	0.5	177	46.3	50	13.1	58	15.2	57	14.9	38	9.9
Admission Office at This University	0	0.0	162	42.4	68	17.8	73	19.1	51	13.4	28	7.3
Alumni of this University	5	1.3	139	36.4	60	15.7	71	18.6	59	15.4	48	12.6
Promotional Material (Brochures, Letters, Videos)	5	1.3	127	33.2	53	13.9	77	20.2	83	21.7	37	9.7
Community in which University is Located	1	0.3	122	31.9	50	13.1	63	16.5	96	25.1	50	13.1
Friends at University/Community College/High School	2	0.5	115	30.1	52	13.6	68	17.8	71	18.6	74	19.4
High School/Community College Counselor/Teacher	6	1.6	97	25.4	51	13.4	75	19.6	80	20.9	73	19.1
Technology Recruitment Activities	2	0.5	98	25.7	53	13.9	79	20.7	89	23.3	61	16.0

Note. Modal responses are in bold

Campus visits should be included in the recruitment process to enhance students enrolling and attending four-year automotive programs. If program recruiters are not currently using this method for recruitment, it is recommended that they begin such. If recruiters are currently using this process, it is recommended that they continue using it.

For future study it is recommended that research be conducted on how to incorporate the reputation of the automotive program and career opportunities into formal recruitment plans. In addition, since reputation of the automotive program was ranked the highest, it is recommended to research what reputation means to prospective students.

This study concentrated on the items that influenced students to attend four-year automotive programs. It is recommended that studies be conducted to determine what those factors are that prevent students from majoring in automotive technology. It is further recommended that more in-depth research using qualitative methods be used to provide a more in-depth and insightful data in this area.

Since it was found that different recruitment items influenced four-year automotive program students to attend, it is recommended that all vocational/technical based programs research the recruitment items that may be more influential to their students. They may discover different findings than that of academic programs.

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THE TRAINING NEEDS OF VOCATIONAL TEACHERS FOR WORKING WITH SPECIAL NEEDS LEARNERS

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Vocational teachers commonly receive teaching certificates based on their work experience and not on formal teacher preparation. Many new vocational teachers are placed in classrooms with little or no preservice teacher training. Increasing numbers of special needs students are entering vocational programs as a result of several federal initiatives. However, vocational teachers routinely have not been formally prepared to work with special students and many have not received training in basic teaching methods. Many vocational teachers lack sufficient skills to be effective in working with the wide range of special needs learners commonly found in their classrooms (Cotton, 1994). One possible solution to this problem is to provide professional development opportunities to vocational teachers in teaching methods, learning styles, and topics related to learners with special needs. Therefore, this study intended to determine the knowledge and skills necessary for working with special needs learners. According to vocational teachers, not all vocational program areas possessed the same strengths and weaknesses related to working with learners with special needs. Training schedules were reported as a potential problem. It was also reported that many of the current problems in vocational teacher preparation were perceived to result from the lack of applicability of inservice training. Recommendations include the development of new training techniques and formats related to topics addressing learners with special needs, improved preparation and training of vocational guidance counselors, and increased participation of vocational teachers in planning for learners with special needs in vocational programs.

It was perceived that an imbalance between vocational teacher preparation and the demands of a wide variety of learners with special needs existed. To explore this concern a review of the literature was conducted to determine if a need for research to address this concern existed. This review of the literature synthesizes information related to the certification of educators, trends and issues in vocational education affecting learners with special needs, teacher attitudes toward learners with special needs. The following is a brief overview of the extensive review conducted for this study.

Certification of Vocational Educators

Training and preparation is important for any professional activity in which a person is involved. Logan (1994) found that all states require some training in topic of exceptionality for regular certification as a teacher, but requirements from state to state vary. It was suggested that consistent certification requirements nationally and positive teacher education by qualified instructors will help greatly towards shaping effective teacher training and excellence in the education of learners with special needs. Since virtually all states provide licensing options which permit teachers to enter vocational education with minimal formal preparation in instructional strategies or other education methods (American Vocational Association, 1993; Jones & Black, 1995; Kraska, 1996), it is important to understand those skills, knowledge, and attitudes teachers possess. Careful consideration of individual learner needs is important for the success of learners with special needs in educational endeavors. To be effective in dealing with individual needs, a teacher must be able to understand a variety of needs, abilities, and learning styles of learners. One study reported that most states do not have comprehensive policies or practices for vocational special education certification (Rojewski & Greenan, 1992). Other research also suggests that vocational teacher pre- and in-service training is inadequate for preparing teachers for working with learners with a variety special needs (Cotton, 1994; Kraska, 1996; Theilbar, Alper, & Schloss, 1994).

In a program evaluation for a 1992-93 academic year vocational teacher-training program for non-degreed teachers, many of the problems identified through teacher interviews were related to characteristics often associated with learners with special needs (Harris, 1993). This was further recognized by the internal evaluation of the same training program for the 1997-98 academic year. Vocational teachers frequently indicated on a summative questionnaire that it would be helpful to provide classroom management topics, including special needs topics, before the vocational teacher begins teaching (Cotton, 1998). This suggests a need to identify the specific instructional problems teachers are confronted with and to develop professional development activities appropriate to meet these needs.

Trends and Issues in Vocational Education Affecting Learners with Special Needs

Legislation and initiatives during the past two decades have assumed a very active role in addressing the problems of learners with special needs. Much of the legislation has focused on program access and equity. Major legislation such as Carl D. Perkins Vocational-Technical Act Amendments of 1998 (Perkins III)., Individuals with Disabilities Education Act Amendments of 1997 (IDEA), and Americans with Disabilities Act of 1990 (ADA) have targeted learners with special needs in vocational education. Consequently, participation of learners with special needs in vocational education will likely continue to increase. Repetto and Neubert (1992) indicated that effectively implementing the reforms would require access to updated pre- and inservice training in effective practices such as systems change, basic skills, technology education, and learners with special needs. Therefore, the preparation of vocational educators relative to learners with special needs assumes increasing importance.

There are many ways to categorize special populations or individuals with special needs. Sarkees and Scott (1986) identified some of the general categories.

> Special needs learners are often labeled [viewed] by vocational teachers as belonging to one or more of the following groups: (a) mentally handicapped learners, (b) learners with emotional problems, (c) visually handicapped learners, (d) hearing-impaired learners, (e) learning disabled learners, (f) speech-impaired learners, (g) health-impaired learners, (h) physically handicapped learners, (I) multi-handicapped learners, and (j) disadvantaged learners. (p. 25)

These are useful in for identifying an appropriate set of descriptors for learners with special needs. Custer and Panagos (1996) developed an instrument that modified these categories slightly. It divided the disadvantaged descriptor into economic and academic groups. Custer and Panagos (1996) reported that vocational teachers felt less confident and effective in working with visual impairments, hearing impairments, and emotional disorders than with other special needs conditions. In addition, vocational teachers reported lower effectiveness in working with attention deficit disorder (ADD), however, higher confidence levels were reported for ADD.

Several studies relating to the professional development needs of teachers have focused on regular academic teachers rather than vocational teachers. Few published studies, on the other hand, directly address vocational teacher professional development issues. This suggests a need to expand the database specifically for vocational teachers since vocational teacher training commonly includes few topics pertaining to learners with special needs. Vocational teachers generally work with students for longer time periods and for multiple years, potentially increasing the significance of the impact on their students. Lynch and Reimer (1997) stated that, "Professional development activities are more important than ever, and they are crucial in our constantly changing field if we are to have any impact on the education and training of special populations" (p. 101). Professional development activities should address not only general educational issues and strategies, but also specific topics of concern for vocational teachers including those pertaining to learners with special needs (Brown, Deberry, Welo, & Scholl, 1985; Cotton, 1994; Custer & Panagos, 1996).

One study surveyed teachers pertaining to their perceptions of professional preparation related to special populations students (Cotton, 1994). The purpose of the study was to determine if vocational teachers believed there was a need for additional training to better prepare them for working with learners with special needs. It was concluded that vocational teachers commonly felt inadequately prepared to work with learners with special needs. Many of the teachers were unaware of individualized education programs (IEPs), were not aware of agencies that served special populations, and were uncomfortable working with some learners with special needs. A further examination of special needs conditions and preferred training formats and schedules was recommended. Greenan (1986) reported that "Vocational teachers viewed needs assessment, least restrictive environment/mainstreaming, and program evaluation as significantly more important problems than did personnel in other [educational] positions" (p.17).

A study conducted by Brown, Deberry, Welo, Thomas, and Scholl (1985) attempted to determine the skills and abilities of vocational teachers related to special needs inservice training. The study identified teachers' self-perceived weaknesses and strengths. The instrument also attempted to determine the preferred formats and scheduling for training. Vocational teachers reported that their area of greatest strength was their interaction with school support services and their greatest weakness was the lack of use of parents or guardians and community resources to supplements instruction. It was recommended that inservice training include guidelines for using students, parents, or guardians to supplement instruction; using community resources to supplement instruction; and adapting instructional activities and materials. Observations and individualized training were reported to be the preferred professional development format of preference.

Teacher Attitudes Toward Special Needs Learners

Examination of the attitudes of vocational teachers toward learners with special needs is important for improving instructional methods and techniques. According to Antonak and Livneh (1988):

> Attitudes are also of importance in attempting to predict future behaviors, a cornerstone of psychological research. Finding out what a person's attitudes are (toward a given object, individual, group of people, event), in conjunction with knowledge of various situational and other personality variables, may aid the researcher in better understanding, explaining, and ultimately predicting behavior toward the referent (p. 13).

Though Antonak and Livneh did not intend to predict the actions of vocational teachers in relation to learners with special needs, it is suggested that awareness of these attitudes will have value for other researchers. Vocational teacher attitudes, including expectations of learners and teacher self-confidence, are important variables in learner performance and success. Moorman (1980) discovered that most vocational teachers lacked confidence in their abilities to deliver effective services to learners with special needs. These teachers indicated that lack of training related to individuals with special needs was a factor. Minner (1982) found that the presence of labels such as learning disabled (LD) significantly lessened favorable attitudes and lowered teacher expectations of the learners. It was suggested that lack of information in reference to these characteristics might have been a factor. It was further reported that labeled students could gain vocational skills in vocational programs but negative initial expectations could inhibit placement into these programs. Another study found that teachers perceived ability to make suitable modifications for disabled students was related to the attitudes held toward learners with special needs (Luckner, 1991). Luckner (1991) suggested that more training is needed to help educators adapt to the many needs of students who have traditionally been labeled "special education". One study to define traits, tendencies and attitudes toward individuals with special needs was conducted by McQuilkin, Freitag, & Harris (1990). They found a relationship between individuals who were considered "apprehensive" and those who held an unfavorable attitude toward individuals with disabilities and that those individuals who were considered "self-assured" held favorable attitudes toward individuals with disabilities. Identifying these tendencies, traits, and attitudes may be helpful in making decisions related to vocational teacher professional development. Though researchers have not conclusively demonstrated that attitudes directly affect services to learners with special needs, it has been suggested that attitudes may influence the availability or quality of programs (Rees, Spreen, Harnadek, 1991).

Nature of the Problem

New vocational teacher performance in the classroom, especially during the first year, is an important factor for consideration in teacher training and licensing requirements. Camp and Heath (1988) noted that, "There is a growing recognition that non-degreed beginning vocational teachers and those who have degrees outside the field of education need a systematic program of timely support and professional development to help them through the critical first year of teaching" (p. 83). Repetto and Neubert (1992) suggested that continuing professional development activities related to working with learners with special needs are an important factor concerning teacher effectiveness in the classroom. Vocational teachers have not traditionally been formally prepared to work with special needs students and many have not received training in fundamental teaching methods. In most states, vocational teachers commonly receive teaching certificates on the basis of their work experience rather than formal teacher preparation (American Vocational Association, 1993; Kraska, 1996). Vocational teachers should become familiar with the content of Individualized Education Programs (IEPs) and assist in creating each learner's IEP. It is important to determine the extent to which vocational teachers are involved in this process. Albright and Preskill (1982) suggested that too little direct contact occurs between vocational teachers and special education personnel. For learners with special needs to receive effective support services and guidance, vocational teachers must be involved in the process.

Statement of the Problem

There is a paucity of teacher vocational training initiatives in regard to working with learners with special needs. Few studies have addressed the specific training needs of vocational teachers. The major research problem in this study was, therefore, to identify topics related to learners with special needs that vocational teachers perceived as beneficial and whether these perceptions were similar among vocational program areas, as well as, training formats and schedules preferred by vocational teachers.

Objectives

The objectives of this study were to:

1. Identify the knowledge or skill areas necessary to work with learners with special needs.
2. Determine potential barriers to success for learners with special needs as perceived by vocational teachers.
3. Identify appropriate training formats and schedules.
4. Identify common training needs among the vocational program areas.
5. Determine if any positive or negative attitudes related to learners with special needs are prevalent among vocational teachers.

Significance of the Study

The extent of teacher training, preparation, and experience of personnel related to working with learners with special needs varies among the vocational program areas (Brown, Deberry, Welo, & Scholl, 1985; Cotton, 1994; Custer & Panagos, 1996). Further, since teacher education may be limited for vocational teachers who receive their credentials based primarily on work experience (American Vocational Association, 1993; Cotton, 1994; Custer & Panagos, 1996), training related to working with learners with special needs is even more limited. Minimal data and information are currently available to guide vocational teacher inservice training decisions with respect to learners with special needs. This study provides information to assist in professional development decisions affecting vocational teachers.

Rationale

A preliminary study explored the training needs and preferences of vocational teachers related to learners with special needs (Cotton, 1994). It was found that vocational teachers desired more training in topics related to working with learners with special needs, however the specific topics of greatest concern were not determined. Another study explored the specific professional development needs of vocational teachers related to special needs learners (Custer & Panagos, 1996). This study is intended to combine the strengths or each of these studies.

Conceptual and Methodological Framework

According to the literature, perceptions or attitudes of teachers related to learners can either positively or negatively affect instructional performance (Antonak & Livneh, 1988; Brown, Berkell & Schmelkin, 1992;

Cotton, 1994; Custer & Panagos, 1996; Luckner, 1991; McQuilkin, Freitag & Harris, 1990; Rees, Spreen & Harnadeck, 1991; Trott & Holton, 1996). For this reason this study examines perceptive data of secondary vocational teachers related to learners with special needs. To add depth and breadth to the findings, both qualitative and quantitative methods of data collection were needed. A survey questionnaire was selected for collecting quantitative data while both open responses and interviews were used to gather qualitative information and data. Items were included to allow stratification of six different vocational programs areas. The tradition of symbolic interactionism was utilized to guide the methods of data collection for the qualitative portion of the present study. All items included were reviewed and edited by a panel of experts in vocational education and research. Two previously tested instruments were adapted for use in the present study (Cotton, 1994; Custer & Panagos, 1996). Some of the items from the Cotton (1994) study were adapted from an instrument used by Brown, J. M., Deberry, J. K., Welo, T. V., & Scholl, S. R. (1985).

Research Design

The research design chosen for this study was descriptive. The study used both quantitative and qualitative methods. The quantitative measure produced demographics and other data from teachers in six vocational program areas. Qualitative measures were used to enhance the results of the study. The data gathered were used to establish teacher strengths and weaknesses and to identify differences among the vocational program areas. This study was not limited to questionnaire data collection. Mail questionnaire studies tend to have low response rates, which limit the power of the results. The present study used additional contacts to enhance the response rate, including written, telephone, and personal contacts. As suggested by Borg, Gall and Gall (1993), the qualitative method of interviewing was chosen to supplement the data collected.

Population and Sample

The present study was a census survey, therefore the population and sample were all practicing vocational teachers in one mid-western state who possess a standard vocational license or a work-based certification and all vocational administrators. A comprehensive list of vocational teachers and administrators was obtained from the State Department of Education. The vocational teachers were stratified by vocational program area so that comparisons among the program areas of agriscience, business, family and consumer science, health occupations, marketing, and trade and industry could be made. The number of individuals in the identified population was N=1407.

Instrumentation

A questionnaire format was chosen for the quantitative portion of the study. This instrument contained items from two previous studies (Cotton 1994, Custer & Panagos, 1996). With the exception of the demographic data, which was measured with categorical and continuous score scales, a five-point Likert-type scale was used. Each instrument was accompanied with a cover letter that included a confidentiality statement and researcher contact information and definitions of terms attachment. Internal consistency was estimated using Cronbach's Coefficient Alpha (μ=0.960). The results of this study were also compared to the equivalent items in the earlier studies (Cotton, 1994; Custer & Panagos, 1996) with similar findings being reported. It was desired to measure those vocational teachers attributes and instructional requirements as related to working with learners with special needs. A synthesis of the literature assisted in developing the instrument and attachments for this study. A panel of experts reviewed and modified materials used to insure face and content validity. Definitions found in federal and state legislation were used whenever possible. In some cases, amendments did not contain definitions of terms in common use. In these cases, the most recent documents containing the definitions required were used.

Data Collection

The survey instruments, definition attachments, cover letters with a confidentiality statement and researcher contact information and stamped self-addressed envelopes were mailed to the subjects. A follow-up mailing approximately five weeks after the initial mailing to non-respondents, combined with telephone and personal contacts, was used to improve the response rate. Of 1407 vocational teachers and administrators, 533 responded resulting in a response rate of 37.9%. Follow-up interviews were conducted and recorded with the written consent of the subjects. The data collection included a structured interview by appointment. Two teachers from each vocational program area were interviewed. The interviewees were randomly selected from the 498 vocational teachers who responded to the survey instrument. Each interviewee received a brief description of the interview process and questions several days before the scheduled meeting. Interviews were limited to a maximum of 50 minutes.

Data analysis

The data were entered into a SAS® program to conduct analysis of variance (ANOVA) tests. The ANOVA tests determined whether or not there were significant differences among the vocational program areas. The data were tested at the p^3 .05. The demographic data were analyzed using frequencies, means, and standard deviations. Data were analyzed both by individual program areas and with all teachers combined. Qualitative data from the Cotton (1994) study compared with this study indicated similar trends and issues.

Findings

The population and sample surveyed included 57 vocational administrators and 1350 vocational teachers with 35 (61.4%) administrators and 498 (36.9%)teachers responding. The percentages of teachers represented in each program area are shown in table 1.

Table 1

Program Area	# Population	% Population	# Responding	% Responding
Agriscience	228	16.9%	86	17.3%
Business	271	20.1%	93	18.7%
Fam & Con Sci	193	14.3%	75	15.1%
Health Occ	73	5.3%	40	8.0%
Marketing	87	6.4%	35	6.8%
Trade & Indust	498	36.9%	169	33.9%

In responding to age, 31.9% of the teachers responding reported an age of over 50 years, with an additional 41.4% reporting between 40 and 50 years. Gender data indicated approximately 50% each for male and female. Approximately 16% of responding teachers indicated they possessed less than a Bachelors degree in education. Work-based certifications were held by 31.5% of vocational teachers, with trade and industry representing the largest percentage of all program areas.

There were four primary areas that vocational teachers generally expressed low perceptions of confidence and effectiveness: mildly mentally handicapped (MIMH) hearing-impaired, visually impaired, and emotional disorders. The areas of economic and academic disadvantage were areas that teachers generally reported high levels of confidence and effectiveness. No training areas identified on the instrument were indicated as strongly needed, however, all were indicated as being beneficial. Items included on the instrument addressed selection and development of materials, equipment, and methods; learning styles, IEPs, and knowledge of special need conditions. In the interviews, the need for training related to IEPs appeared to more pronounced than in the quantitative data.

Vocational teachers indicated that individual advice from professionals and inservice seminars were the most desirable formats for professional development activities, with on-the-job experience and college credit courses being the least desirable formats. Interviews revealed a frequent perception that formal teacher training generally does not address topics related to learners with special needs effectively and that consulting with special needs staff was the most useful format for training in this area. Vocational teachers indicated that only special release time and professional days were desirable for scheduling professional development activities. All of the remaining schedules indicated (mornings, afternoons, evenings, weekends, and summer days) were reported as very undesirable or unacceptable. Interviews revealed a strong desire to have professional development activities available locally.

Discussion

Related to weaknesses in skill and ability, many teachers indicated an inability to deliver services equitably to all learners as a result of their lack of knowledge related to some specific special needs conditions, with the primary areas of concern being MIMH, hearing-impaired, visually-impaired, and emotional disorders. For this reason, it is desirable to develop professional development opportunities that address these topics directly. General training in special needs topics may still be desirable, but training should not be limited to general issues. In reporting barriers to student success, teachers again reported the lack of knowledge of special needs conditions as significant. During interviews, it became apparent that disagreement exists within vocational program areas. Some teachers indicated that learners with specific special needs cannot succeed in their occupational program areas, while other teachers indicated that the success rate was very high in the same areas. This may indicate that teacher perceptions of the occupational area and learner abilities play a major role in learner success. This further suggests that training in specific special needs would be helpful for many teachers.

Since all training formats were reported as acceptable, with college courses and on-the-job experiences as least desirable, the data would seem to indicate that there is not a need for changes in current formats used. However, results of the interviews and the open-ended responses indicate that location is a major barrier. This may indicate a need to explore possibilities for conducting training closer to the vocational schools or applying long distance learning options. When reviewing schedule preferences, this problem becomes more pronounced. All time blocks currently used for professional development activities were identified as very undesirable except those occurring during contract hours. This may indicate a need to explore new and emerging technologies, such as web based learning, to make training more flexible.

In discussing barriers, vocational teachers indicated that negative attitudes are the least significant barrier of those identified, however, in interviews they indicated that negative teacher attitudes frequently cause problems for learners with special needs. Lack of involvement in IEP development was also indicated as a barrier to learner success. Generally, the most significant barriers reported by teachers included (a) inadequate inservice quality, (b) lack of teacher involvement in IEP goal setting, (c) inappropriate program placement, (d) difficulties in post education placement in the workforce, and (e) lack of useful information about various special needs conditions. It is recommended that pre- and inservice training requirements for teachers with both a standard license and work-based certification be modified to include more topics related to learners with special needs. Further, teachers certified through work-based experience should receive training in pedagogical topics and special needs topics for at least 2 to 3 weeks before teaching in the classroom. Additional studies should investigate more closely the potential problem of lack of vocational teacher involvement and understanding of IEP processes. It would prove beneficial to replicate this study in other geographic areas to enhance the generalizability of the findings.

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HIGH SCHOOLS THAT WORK: IMPROVING SKILLS IN READING, MATHEMATICS, AND SCIENCE IN AGRICULTURAL EDUCATION STUDENTS

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The purpose of this study was to determine the effects of participating in the High Schools That Work program on achievement of agricultural education students in the areas of reading, mathematics, and science. Students enrolled in agricultural education at High Schools That Work sites in North Carolina were administered the National High Schools That Work Assessment, which was based on items from the National Assessment of Education Progress (NAEP). Scores in reading, mathematics, and science for agricultural education students were compared to scores from all students at High Schools That Work sites and to students in college preparatory programs who completed the NAEP. The results showed that agricultural education students who had been involved in the High Schools That Work curriculum failed to meet the goal of the HSTW program in reading, mathematics, and science. However, the assessment did show that progress had been made toward meeting the HSTW goals. While agricultural education students' reading scores were below their vocational education counterparts who completed the HSTW Assessment, their science and mathematics scores were higher. In the area of life sciences, agricultural education students exceeded the performance of the college prep students who completed the NAEP.

The Southern Region Education Board (SREB) developed a program in 1985 to address concerns by employers that high school graduates were not prepared for successful employment in the real world. Students who were not planning to continue their education in a four-year baccalaureate program were not receiving the type of education that prepared them to enter the American workplace (Bottoms, 1992). The program, called High Schools That Work, promoted by the SREB emphasized integration of higher-level academic courses with vocational courses and has been accepted and expanded to 650 high schools in 21 states (Miller, 1997). The goal of the High Schools That Work program is to improve reading, mathematics, science, technical, and problem solving abilities of vocational students. According to Bottoms (1992), "the aim is to close dramatically the achievement gap between students pursuing a vocational major and those completing a college preparatory program of study" (p. 26). The specific aim was to close the gap between vocational students and college prep students' scores in reading, mathematics, and science by one-third (Miller, 1997). The High Schools That Work Program sought to accomplish this goal by teaching academic content through an applied process, by requiring students in vocational programs to complete additional courses in math and sciences, and by encouraging academic and vocational teachers to work together to provide educational programs that better prepare students for lifelong learning on the job or in schools (Bottoms, 1993).

The High Schools That Work program was based upon applied learning theory and the premise that schools required students to think differently than how they think in real life. According to the National Council on Vocational Education (1991), those differences were in four major areas (a) individual learning vs. cooperative learning, (b) abstract thinking vs. concrete thinking, (c) symbol manipulation vs. reasoning with symbols, and (d) generalizing from concepts vs. generalizing from concrete examples. Therefore, the response to low achievement was not simply to add more academic content to the curriculum for vocational students; but to add the academic content in an applied format that provided for group learning and use of mathematics and science concepts in concrete settings (Bottoms, Presson, and Johnson, 1992). In addition, vocational teachers were provided with tools to reinforce reasoning with symbols by integrating more academic content into the vocational courses they taught. Fogarty (1991) explained the integrated model provides students with better opportunities to make the relationships between academic and vocational content.

The SREB curriculum specifies that students in vocational courses complete a more rigorous program of studies than had been traditionally completed by vocational students. Students must complete at least three credits each in math and science, with two credits in each subject from courses that are comparable to college preparatory courses. Furthermore, the program of study should include science in both the junior and senior year of high school and math in the senior year. In English, students complete four courses with content equal to that of college prep courses. Student must also complete at least four credits in a vocational major with a coherent sequence of courses in the major and two credits of related vocational or technical courses (Bottoms, 1992)

A preliminary assessment of SREB pilot sites showed evidence that High Schools That Work had potential to improve the achievement of vocational students. Students who completed vocational programs at SREB pilot sites in 1990 completed the High Schools That Work Assessment, which was developed using items from the National Assessment of Educational Progress (NAEP). Students who reported their vocational teachers often stressed reading, mathematics, and science skills had significantly higher scores in all three subject areas than students who reported their vocational teachers did not emphasize those academic areas (Bottoms, Presson, and Johnson, 1992). Another measure of success includes reports of increased enrollment in community college programs of students graduating from High Schools That Work sites (Lozada, 1996).

Purpose and Objectives

High Schools That Work programs have been in place in North Carolina for slightly over ten years. There is a need to assess the progress that has occurred in agricultural education programs participating in High Schools That Work sites in meeting the goals of improving the reading, mathematics, and science scores of students who have participated in this program. The specific objectives of the study were to:

1. Determine the effect of participating in a High Schools That Work site on the reading achievement scores for agricultural education students as measured by the HSTW Assessment scores.
2. Determine the effect of participating in a High Schools That Work site on the mathematics achievement scores for agricultural education students as measured by the HSTW Assessment scores.
3. Determine the effect of participating in a High Schools That Work site on the science achievement scores for agricultural education students as measured by the HSTW Assessment scores. HSTW Assessment scores.
4. Assess the progress made by agricultural education students in North Carolina HSTW sites toward meeting the HSTW goals and narrowing the gap between achievement of agricultural education students and college prep students.

Methodology

The research design used in this study was a one-group, posttest only design (Borg and Gall, 1983). This design was strengthened by using the national average for all High Schools That Work sites and for college prep students as comparison groups.

All agricultural education students in schools that participated in the High Schools That Work program in 1996 (N = 244) were administered the National Assessment of Education Progress (HSTW Assessment) exam in order to determine their level of proficiency in reading, mathematics, and science. The HSTW Assessment was developed and administered by the Educational Testing Service (ETS). Content validity and reliability on the various components of the HSTW Assessment were established by ETS. The exam was administered near the end of the 1995-96 academic year. Educational Testing Service provided summary data to the North Carolina Department of Public Instruction in the form of percentages, measures of central tendency, and measures of variance.

Results

Agricultural education students in this study were asked if they had completed the courses in the SREB recommended curriculum. Of the 244 students, 45.9% had completed the recommended courses in English, 77.0% had completed the recommended mathematics curriculum, and only 38.9% had completed the entire recommended curriculum in science. A vast majority (91%) of the agricultural education students had completed a vocational major in agriculture. Only 20.5% of the students had completed the entire recommended SREB curriculum in English, mathematics, and science.

In the area of reading, the High Schools That Work Goal for all students in vocational programs was 279. The mean HSTW Assessment score for reading in 1996 for agricultural education students in North Carolina in High Schools That Work was 270.1 (SE = 1.7). This compares to a mean reading score of 272.6 for all students in HSTW sites and 302.4 for all college prep students in the NAEP National Public School Sample. North Carolina agricultural education students who had completed the SREB recommended curriculum in English scored an average of 277.6 (SE = 2.5) on the HSTW reading assessment, compared to 263.7 (SE = 2.3) for students who had not completed the recommended curriculum. In addition to composite reading scores, the HSTW Assessment assesses students' ability in six reading categories (see Table 1). Agricultural education students compared favorably to the composite group of all students in HSTW sites in the areas of reading to gain information and developing interpretations. A lower percentage of agricultural education students responded correctly to items dealing with reading areas of performing a task, initial understanding, personal responses, and critical stances.

Table 1
Percentage of Agricultural Education Students Giving Correct Responses by Reading Purposes

Reading Purpose	Ag Ed Students	All HSTW Sites	College Prep
Gain information	59.3	58.4	71.8
Perform a task	61.4	63.6	73.7
Initial understanding	84.4	85.2	N/A
Develop interpretations	66.9	66.0	N/A
Personal response	31.2	32.9	N/A
Critical stances	56.9	59.4	N/A

The High Schools That Work goal for mathematics achievement on the HSTW Assessment was 295. The mean HSTW Assessment score in mathematics for agricultural education students in HSTW programs in North Carolina was 286.9 (SE = 2.4). This compares to a mean score of 276.7 (SE = 1.6) for all vocational education students participating in HSTW programs and 316.8 (SE = 0.4) for all college prep students who completed the NAEP in 1996. Almost 60% of the agricultural education students had completed the recommended minimum of three credits in mathematics and earned a mean score of 280.7 (SE = 3.1) on the math assessment. Agricultural education students who had completed four or more credits in math (38% of population) averaged 298.3 (SE = 3.8) on the HSTW math assessment. Only 6 of the 244 students in agricultural education had completed less than three credits in math, scoring an average of 265.0 (SE = 36.5) on the HSTW math assessment. The HSTW Assessment examines eight areas of mathematics performance. The percentage of North Carolina agricultural education students in HSTW programs that gave correct responses in the eight math content/process areas are compared to students in all HSTW sites and to college prep students in Table 2. Agricultural education students approached the level of math competency of college prep students who completed the NAEP and generally performed higher than the total group of students at HSTW sites who completed the HSTW Assessment. It should be noted that agricultural education students performed significantly higher in the math process area of conceptual understanding than the college prep students who were not in HSTW programs.

Table 2

Percentage of Agricultural Education Students Giving Correct Responses by Math Content or Process Area

Math Content/Process Area	Ag Ed Students	All HSTW Sites	College Prep
Numbers & operations	68.4	68.3	65.8
Measurement	54.3	52.4	55.3
Geometry	60.0	58.2	60.5
Data analysis, statistics and probability	53.9	52.8	57.9
Algebra & functions	53.1	52.1	54.5
Conceptual understanding	76.3	73.4	57.1
Procedural knowledge	56.4	56.8	56.0
Problem solving	58.0	56.8	59.0

The High Schools That Work goal for science achievement on the HSTW Assessment was 292. The mean HSTW Assessment score in science for agricultural education students in HSTW programs in North Carolina was 290.7 (SE = 1.6). This compares to a mean score of 282.6 (SE = 0.2) for all vocational education students participating in HSTW programs and 306.8 (SE = 0.6) for all college prep students who completed the NAEP in 1996. Approximately 60% of the agricultural education students had completed the recommended minimum of three credits in science. Those students who had completed three science credits earned a mean score of 286.3 (SE = 2.1) on the science assessment. Agricultural education students who had completed four or more credits in science (38% of population) averaged 297.3 (SE = 2.7) on the HSTW science assessment. The HSTW Assessment examines seven areas of science performance. The percentage of North Carolina agricultural education students in HSTW programs that gave correct responses in the seven science content/process areas are compared to students in all HSTW sites and to college prep students in Table 3. As expected, agricultural education students performed at relatively high levels in the life sciences content area and in the process area of knowing science. In general, agricultural education students had a higher percentage of correct responses in science categories than HSTW students in other vocational area. College prep students performed at higher levels than agricultural education students in the content area of earth and space and the nature of science and performed slightly better than agricultural education students in the science processes of solving problems and conducting inquiries.

Table 3

Percentage of Agricultural Education Students Giving Correct Responses by Science Content or Process Area

Science Content/ Process Area	Ag Ed Students	All HSTW Sites	College Prep
Life Sciences	70.5	62.3	63.7
Physical Sciences	49.2	45.9	51.9
Earth and Space	45.5	42.8	54.7
Nature of Science	52.8	49.9	70.4
Knowing Science	60.5	54.0	60.4
Solving Problems	48.0	44.6	53.2
Conducting Inquiries	57.2	57.4	60.1

In order to assess progress toward meeting the High Schools That Work goals, data from the 1994 HSTW Assessment scores were compared to the 1996 data. However, it should be pointed out that these scores are misleading because several HSTW sites were added between 1994 and 1996. The new HSTW sites did not have as much time to implement the HSTW program and should be expected to have lower HSTW Assessment scores. Therefore, small gains in mean scores on the HSTW Assessment could be attributed to less time for implementation of the programs and practices that characterize the High Schools That Work initiative.

In the area of reading, agricultural education students increased the mean HSTW Assessment scores from 263.8 (1994) to 270.1 (1996), an increase of 6.3 points in two years. In 1996, 37% of the agricultural education students met the HSTW goal of 279. In 1996 agricultural education students scored 286.9 on the math component of the HSTW Assessment, compared to 288.7 in 1994. While math scores did not improve from 1994 to 1996, 45% of the agricultural education students met the HSTW goal of 295 in mathematics. In the area of science, 1996 agricultural education students scored 290.7 on the HSTW Assessment, as compared to 292.2 in science in 1994. However, 52% of the agricultural education students met the HSTW goal of 292.

Conclusions and Recommendations

The following conclusions are based upon the findings of this study:

1. Agricultural education students who have been involved in the High Schools That Work curriculum have improved their reading ability. However, they have not met the goal established by the Southern Region Education Board for the reading assessment, and their scores are below those of their vocational counterparts who have participated in the HSTW program.

2. Agricultural education students who have been involved in the High Schools That Work curriculum were performing below expectations in mathematics, as determined by their HSTW Assessment scores. However, their performance exceeded their vocational counterparts who also participated in HSTW programs.

3. Agricultural education students who have been involved in the High Schools That Work curriculum were performing below expectations in science, as determined by their HSTW Assessment scores. However, their performance exceeded their vocational counterparts who also participated in HSTW programs. In the area of life sciences, agricultural education students exceeded the performance of the college prep students who completed the NAEP.

4. Completing the required courses in the High Schools That Work curriculum results in improved HSTW Assessment scores in the areas of reading, mathematics, and science. High Schools That Work has demonstrated the potential to close the gap in basic skills between agricultural education students and college prep students.

Based upon the findings and conclusions, the following recommendations are offered:

1. School administrators who wish to strengthen the basic skills of vocational education students should implement the curriculum and practices recommended by the Southern Region Education Board's High Schools That Work program.

2. Schools that participate in the High Schools That Work initiative should ensure that students are completing the recommended curricula in English, mathematics, and science. In each of the assessment areas, students who had completed the recommended curriculum scored near the stated HSTW goal. However, only 21% of agricultural education students had completed all of the components of the HSTW program.

3. Agricultural education teachers should stress reading in an applied form in their courses in an effort to reinforce the efforts of integrating English into the vocational curriculum.

4. Agricultural education teachers have done a good job in the area of life sciences, but need to improve their integration of physical sciences (chemistry and physics) in the agricultural curriculum in order to assist students in closing the gap in science between agricultural education students and their college prep counterparts.

5. Future assessment of the High Schools That Work initiative should include only schools that had participated in the program long enough to implement all of the HSTW recommendations.

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DEVELOPMENT OF A PERCEIVED NEEDS INSTRUMENT FOR GEORGIA'S ADULT AGRICULTURE PROGRAM

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Identification of educational needs can be a valuable component in program planning. The purpose of this study was to develop a valid and reliable needs assessment instrument, and to use this instrument to investigate the perceived agriculture educational needs of adult learners. Another purpose was to explore how perceived needs are affected by the independent variables of type and number of courses attended, race, retirement status, gender, and age. In the first phase of this study, a set of perceived educational needs descriptors were developed, as were procedures to establish validity and reliability of the descriptors. A five-step process was completed that included literature review, item categorization and instrument construction, panel review, nominal group technique, and a pilot testing. This process resulted in a 25-item set of educational needs descriptors, which consisted of ten personal, seven social, and eight occupational need items. Five hundred and two adult learners returned surveys providing biographical information and ratings of perceived educational needs. At a time when accountability is at the top of today's educational agenda, this study provided Georgia's agricultural education department with a practical, reliable and valid instrument that not only developed a learner profile of the adults being served, but also identified perceived educational needs giving learners a voice in program planning. Additionally, the results contribute to research literature in the construct areas of perceived educational needs and needs assessment for adult agricultural education as well as assist similar non-credit adult educational programs in providing a basis for future research in this area.

Adult educational needs have become a priority in today's educational agenda (Valentine, 1997). Providing life long learning opportunities to adults through the implementation of educational programs requires an investment of time, money and other critical resources by state and federal agencies. Consequently, accountability and assessment has been required from providers who fund the programs.

Though many states have issued requirements for assessing institutional adult education effectiveness, few studies with indicators for noncredit programs are available (Oaklief, 1988). In 1995, the Georgia Department of Education cited the agriculture short-term adult program for having no formal procedures to measure participants' needs or program benefits. As a result, cancellation of funding for this program was recommended (Georgia Department of Education, 1995). The State has continued to fund the adult education program contingent upon the collection of data regarding the program's impact.

Reaction to this state mandate occurred in late 1995 resulting in a statewide quantitative survey distributed to school administrators, teachers of agriculture, and agribusiness personnel by the University of Georgia's agricultural education department. The survey collected data relevant to the perceived value of the adult short-term program in terms of effectiveness, return investment to the community, and importance of state staff regional teachers (Georgia Department of Education, 1995). Respondents assessed the value of these program objectives from least important (1), to most important (5). The mean results showed an overall rating of 4.7, indicating this group of stakeholders perceived the adult program as both important and effective. During the same year, Lee and Thomas (1995) completed a futures trend extrapolation study that listed community involvement and adult education as a priority for the future of agricultural education.

Similarly, the most recent national and southern regional quantitative research based surveys reported adult education as an integral and effective part of the total agricultural education program (Birkenholz & Maricle, 1991; Christmas & Warmbrod, 1988; Chizari & Taylor, 1991). Each of these studies evaluated data based on the perceptions of the state agricultural education personnel, middle and high school agriculture teachers and local school administrators. Though these studies substantiated and generated support for agricultural education adult programs, each ignored an important stakeholder: the adult learner.

Simerly and Sork's 1991 investigations correlated program failure and learners' negative reactions toward adult education to the inadequacy of programs meeting the learner's expectation. The findings of these studies also indicated that the most common problems leading to program failure included lack of identification of the diversified needs of learners and understanding the program's relevancy to the learners (Sork, 1991). The more recent writings of Caffarella (1994); Cervero & Wilson (1994); Witkin & Altshuld (1995) concur that program success is directly related to the involvement of the learner as well as other stakeholders. Their findings encourage planners to design and deliver educational programs that will address the needs of the learner in addition to providing the latest technical information and the objectives of the organization.

There appears to be no argument that continued learning is essential. In addition, there appears to be support for the adult agricultural education program based on the perceptions of a group of stakeholders who plan, develop and deliver the program (administrators, teachers, agribusiness professionals). However, no data exists to assist these stakeholders in identifying the needs of the learners who participate in the adult agricultural education program. Recognizing the needs of learners is a highly contingent process and one that is considered central to responsible program planning (Queeney, 1995). Many program-planning theories support the idea that learners should have a voice in program planning (Caffarella, 1994; Cervero & Wilson, 1994; Dewey, 1938; Houle, 1980; Queeney, 1995; Tyler, 1949; Walker, 1971; Within & Altshuld, 1995). The descriptions and recommendations of these theorists form the theoretical perspective to this study.

Needs assessment is one strategy for assuring the involvement of learners in the democratic planning process (Cervero & Wilson, 1994). The data obtained from a well-constructed needs assessment instrument can provide a focus for improving program design, content and delivery. The most fundamental value of utilizing needs assessment data for program planning lies in determining which programs should be offered and what content should be included. Programs that do not result in the improvement of knowledge, skills or performance abilities needed to address a discrepancy disappoint both the adult learners enrolled and those who support their participation (Queeney, 1995).

In defining and assessing educational needs, many complex issues are addressed within the research literature. Though many definitions of need have been published, no single definition applies directly either to the broad field of adult education or to the specific area of agricultural education. Moore (1980) defined educational needs by identifying "need" as a discrepancy between an existing set of circumstances (i.e. knowledge and skills) and a more desired set of circumstances. Scissons (1982) developed a typology of needs to define differences in educational needs. He proposed that no single definition of need is adequate for every setting; therefore, educational need must be defined in terms of relevance, competence and motivational components. He concluded that although perceived needs do not completely reflect real educational needs, they do provide important information and should be considered during educational planning.

These various educational needs perspectives, along with Cervero & Wilson's (1994) negotiated program planning model, provide the theoretical framework for the present study. According to Cervero and Wilson, needs assessment is one method to provide a composite understanding of needs of adult learners, and can benefit both the program and the participant. Additionally, use of a well constructed needs assessment instrument to correlate adult learners' needs with demographic variables can yield a more accurate adult learner profile, which is valuable in making better decisions concerning future course offerings (Bee, 1987; Caffarella, 1994; Cross, 1981; Queeney, 1995; Simerly, 1991; Sinnott, 1994; Wlodkowski, 1985).

Purpose of the Study

For many years, Georgia's adult agricultural education program has been planned, implemented, and assessed by a limited number of stakeholders; i.e., state staff and instructors. This limited scope of planning and review has not only ignored input from the ultimate beneficiaries of the program, the adult learners, but has elicited criticism from the program's funding agency. Assessment focused on only one group of stakeholders should not be the sole influence in program planning. The development and utilization of an adult learner needs assessment could enhance the existing program planning strategies by opening a window for deeper understanding and broaden a program's information base. A needs assessment is warranted as a strategy that can assist planners in discerning expectations and determining the educational priorities of the adult learners who participate in the short-term agricultural education classes. Therefore, the purpose of this study was to develop a valid and reliable needs assessment instrument that would examine the adult learners' perceived needs following participating in an agricultural education course.

Method

In this study a set of perceived educational need descriptors was developed as were procedures to establish validity and reliability of the descriptors for the development of a needs assessment instrument. A five-step process was completed that included literature review, item categorization and instrument construction, panel review, nominal group technique, and pilot testing producing a valid and reliable 25 item quantitative needs assessment instrument.

Development of Needs Assessment Instrument

After reviewing the literature and contacting state agricultural education departments across the nation, no assessment instrument was located addressing the needs of the adult learners attending agricultural education courses. Therefore, the development and validation of a learner-based needs assessment instrument was undertaken. The instrument design included a set of descriptors of perceived needs. This instrument would assist agricultural education departments in assessing adult learners' educational needs and improving future program planning. Defining and clarifying the objectives of the proposed needs assessment were the first steps in selecting a needs assessment method. A review of literature clarified perceived educational need as a discrepancy between what exists and a more desired state of existence (Moore, 1980). Additionally, the literature provided a narrowing of the term "needs assessment," to a decision-making tool used to identify needs, and identified multiple methods to assess needs, such as, Delphi strategies, self-reports, focus groups, nominal group technique process, surveys and case studies (Queeney, 1995). Upon consideration of the population, the type of desired information, the sample size and the wide geographic area that needed to be sampled, survey questionnaire assessment was selected as an appropriate research method. Gall, Borg, Gall (1996) recognized survey research as a relatively inexpensive way to collect a large amount of information from a large number of people. Additional advantages of using the questionnaire survey are: 1) consistency in the manner and type of questions presented to each respondent, 2) ease in reaching adults who live across the state of Georgia, 3) convenience on the part of the respondent in answering the questions, 4) increased capabilities for gathering greater quantities of information in a short period of time (Withkin and Altschuld, 1995). Following determination of the method of assessment, a five-step process was undertaken to validate the instrument that included review of the literature to identify independent and dependent variables, item categorization and instrument construction, panel review, nominal group technique processing, and pilot testing. This process is illustrated in Figure 1.

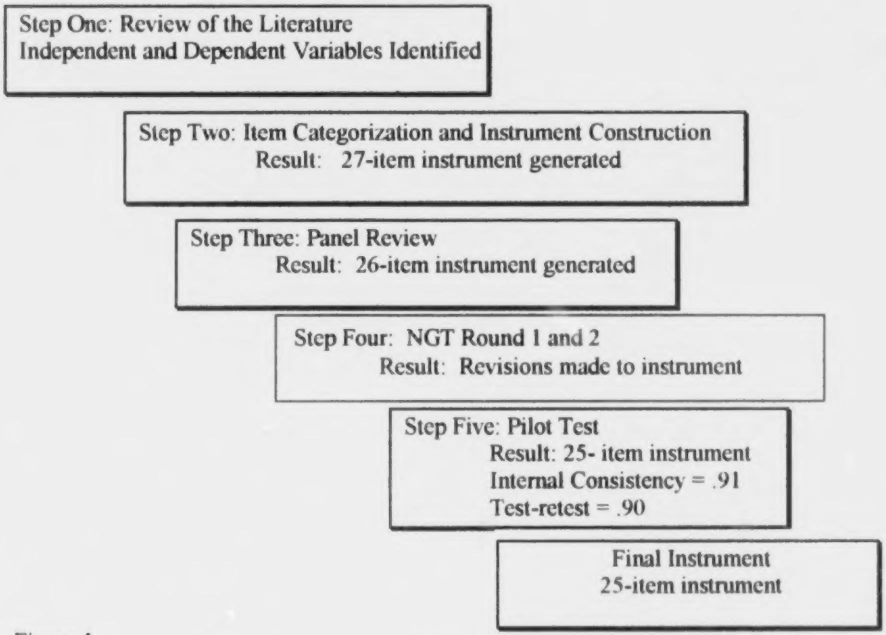
Step One: Review of the Literature
Independent and Dependent Variables Identified
Step Two: Item Categorization and Instrument Construction
Result: 27-item instrument generated
Step Three: Panel Review
Result: 26-item instrument generated
Step Four: NGT Round 1 and 2
Result: Revisions made to instrument
Step Five: Pilot Test
Result: 25- item instrument
Internal Consistency = .91
Test-retest = .90
Final Instrument
25-item instrument

Figure 1.
Five-step Process for Development and Validation of Needs Assessment

Review of the Literature and Identification of Variables

Review of the research literature in program planning, needs assessment and educational needs were conducted to locate appropriate items for use in this study. Numerous studies cited reasons adults choose to participate in continuing education courses (Adelaine & Foster, 1987; Archer, 1985; Aslanian & Brickell, 1988; Carlson; 1989; Cervero, 1988; Christmas, 1988; Cross, 1981; Dublin, 1990; Eurich, 1990; Merriam & Cunningham, 1989; Mezirow, 1991; Nowlen, 1988; Oaklief, 1988; Queeney, 1995, Sinnott, 1994; Wlodkowski, 1993). Within these studies personal enrichment, social interaction and occupational improvement were identified as three areas of major influences for adults returning to an educational environment. For this reason, these factors were selected as the dependent variables for the needs assessment instrument. Additionally, demographic variables, including race, retirement status, gender, occupation and age were selected as independent variables for descriptive and comparative analysis based upon their potential to influence educational need.

Item Categorization and Instrument Construction

Items identified from the literature review that develop the constructs of personal, social and occupational needs were categorized in the second phase of the validation process. Measuring concepts using multiple indicators rather than a single-item indicator is desirable for several reasons. Primarily, use of multi-item indicators more accurately reflects the complexity of the concept and secondly, assists in developing more valid and reliable measures (de Vaus, 1990). Multi-item scales also help avoid distortions that may be inherent in single-item measures of complex concepts such as needs. For example, wording of questions can substantially affect respondent answers; therefore, if the study relies on only one question per educational need, the wording of the one question could heavily influence responses. Using a number of items per concept would minimize the effect of single item wording and interpretation (Gall et al. 1996). In construction of the rough initial scale, 27 items building the constructs of personal, social or occupational needs were identified from the literature and developed into a Likert-type scale, a measure that asks individuals to check their level of agreement with various statements. The closed-ended approach for this survey was chosen for its advantage in being a quick and easy-to-answer instrument, hence increasing the likelihood of response as well as the instrument's practical validity. Closed-ended questions are also advantageous because they provide ease in coding, thereby averting the possibility of researcher misinterpretation of responses, and they do not discriminate against less articulate respondents (Gall et al. 1996).

Panel Review

Validity and reliability are central issues to the ultimate value of both the instrument and the study itself. Validity can be defined as the degree to which an instrument measures what it is supposed to measure (Gall et al. 1996). The following procedures were used to determine instrument validity. A two-round iterative validation process was undertaken, resulting in a 26-item set of descriptors grouped according to the three educational needs. After development of the first draft, the instrument was reviewed for construct and content validity by five university professors who serve as the researcher's doctoral committee. Panel members were asked to review the items to determine whether they reflect the construct of educational need and to provide comments, suggestions, additions and deletions regarding the construction of the questionnaire. Correspondence between research questions and survey items were provided along with a review of literature supporting the selection of items. Based upon suggestions from the university committee, the set of descriptors was revised.

A panel consisting of five Georgia agriculture education area teachers and one regional coordinator performed a follow up review of the instrument. The individuals were selected on the basis of their close association to the adult agricultural education program. The area teachers are current instructors for the adult courses and the regional director has past experience teaching adult courses and currently monitors the programs in North Georgia. These panel members are not only familiar with the adults attending agricultural education courses but served on the 1997-98 Vision committee, where they addressed the future objectives and directions of the program.

Panel members were given the instrument and cover letter revised in round one along with a letter requesting their critical review, deletions and additions. Based on the suggestions from this panel of agricultural educators, three items were added to the instrument. *Interested in beginning my own business in this area* was added to the occupational need item bank and *Support of local agricultural education program and Attend a social meal function* was identified and included under social need construct. Other changes included the addition of the word "adult" to help clarify questions in the biographical section and the inclusion of the name of the school where the course was held in the cover letter. Changes were made based upon the panel's suggestions, resulting in a revised version. The revised instrument contained 26 item descriptors: 11 for personal need, 7 for social need, and 8 for occupational need. Eleven biographical questions, a listing of adult education courses, and a one-page cover letter were also included in the mailing package.

Nominal Group Technique

Nominal Group Technique (NGT) is a method for structuring small group meetings to solicit individual judgments and contributions. The method may be used as a research validation tool to support data collected through a more quantitative technique (de Vaus, 1990). In this study, NGT procedures were used to determine (a) if each item measures what it purports to measure, (b) the degree of agreement on item categorization, and (c) the utility (practical validity) of the instrument through group discussion about how the descriptors could be improved.

NGT – first round

Twelve high school agricultural education teachers who teach or host adult education courses participated in the process. Of the 12 participants, seven were male, and three were female. The participants ranged in age from 29 to 61, with an average of 17 years of teaching experience. In the initial NGT meeting, the theoretical perspective and purpose of the study were verbally explained to the participants, who were then provided written definitions of the overall construct of perceived educational need and its three components, personal need as category 1, social need as category 2, and occupational need as category 3. Needs assessment was also described and defined. Members of the group were then given a list of the 26 descriptors that had been randomized, and the participants were asked to circle O, P, or S next to each item as an indication of their interpretation as to which category the item best referred. This feedback was especially valuable in that it enabled the researcher to identify alternative interpretations of the items.

NGT – second round

Revisions of word changes to improve clarity were made to the set of descriptors based on feedback from round-one NGT participants. Following revisions, the categorization task was again undertaken with a new group of ten adult learners. These individuals were solicited for participation while attending a landscape design adult agricultural education course. This group consisted of six males and four females ranging in ages from 22 to 51 with an average age of 37.

These adult learners were given the revised descriptors and the same instructions as the first group. The degree of agreement concerning categorization of the items with this set of descriptors was much higher than in the first round NGT. As in the first NGT exercise, each item categorized the same as the master list was considered a hit; each item categorized differently was considered a miss. Out of the overall 25 items, 22 items received 100% agreement (hit), one item received 90% agreement and two items received 80% agreement.

Results are as follows for the three perceived educational needs components: For the personal need subscale, nine of the 10 items received a 100% hit rate and the remaining item received 90% hit rate. For the social need subscale, five of the seven items received a 100% hit rate and the remaining items received an 80% hit rate. For the occupational subscale, eight of the eight items received a 100% hit rate.

Pilot Test

Before initiating an actual pilot test, a proposal for this study was presented to the Human Research Board (HRB) at the University of Georgia. After the instrument and procedures for the study were approved by HRB, the instrument was pilot tested on adult volunteers from two North Georgia agricultural education adult courses. The purpose of the pilot test was to gather information to use in evaluating the reliability and practical validity of the instrument. Two groups of adult learners attending different agricultural education courses were asked to participate in the pilot study. The first group selected included 15 adults, all female, attending a floral design. The second group selected included 13 adults, nine males and four females, attending a lawn and irrigation class. At the end of each adult education course, the researcher explained the theoretical perspective for the study, the purpose for the pilot test and the need to obtain responses twice, once immediately following the course and then again two weeks later. The adult learners in both groups were then asked to fill out the instrument and turn it in before leaving the class. Additionally, the adult learners were asked for verbal and written comments concerning items that were ambiguous or that may be interpreted differently than had been intended. Twenty-eight of the thirty-one adults in the two combined classes volunteered to participate in the initial pilot study. These participants indicated that the rating scale method was very easy to complete and understand. Two weeks later a cover letter, instrument, and self-addressed stamped envelope were mailed to the participating adults. Fourteen of these completed surveys were returned within a two-week period.

Discussion of results

Determination of the internal consistency of the set of descriptors and the stability from one administration to another was the next step in the validation process. Reliability is a statistical measure of the repeatability or consistency of survey data. More specifically, it is the degree to which an instrument will produce similar results for a given individual at different times (Litwin, 1995). Using the 28 surveys administered in the pilot study, internal consistency reliability was calculated using Cronbach's alpha for the entire scale and for each of the three needs components (subscales). This test for internal reliability is a reflection of how well different items complement each other in their measurement of different aspects of the same variable (Litwin, 1995). Litwin further wrote, "when developing an instrument, it is imperative to test for reliability before using it to collect data from which you will draw inferences" (p.27). Cronbach's alpha is the appropriate statistical technique when measures have multiple-scored items, such as Likert-type rating scales (Gall et al. 1996). To determine the acceptable level of reliability for a test, the purposes for its use must be examined. According to Wiersma (1991), a minimum reliability level of .70 is acceptable for group data used to measure beliefs, perceptions, and attitudes, and a minimum of .90 should be attained when testing individual achievement or skills. Therefore, .70 was determined to be the minimum acceptable level of reliability and the desired level would be above .80. Results of Cronbach's alpha analysis indicated that the coefficient alpha for the full scale (all 25 items) *Overall Perceived Educational Need* was .91. Coefficient alpha for *Personal Need* was .83; *Social Need* was .90 and *Occupational Need* was .80.

These reliability coefficients indicate that items are measuring, to a certain extent, a common entity (Wiersma, 1991). Not only were high correlations found in personal, social and occupational needs subscales, but the high correlation ($r = .91$) was also revealed for Overall Perceived Need (all 25 items), suggests that the three perceived educational need components (personal, social, and occupational) are interrelated and share a proportion of total variance. Therefore, educational need components might be more accurately conceptualized as three overlapping circles rather than three separate entities as sometimes portrayed in the literature (Houle, 1961, 1988; Merriam & Cunningham, 1989; Mezirow, 1991; Sinnott, 1994; Queeney, 1995; Wlodkowski, 1985).

To determine the coefficient of stability (consistency from one administration to another) for the set of descriptors, the test-retest reliability was calculated (Wiersma, 1991). Fourteen of the pilot test participants completed a second instrument two to four weeks after the initial rating. For each of the 14 paired ratings, an overall score and three component scores were calculated by totaling the ratings for each item in that category and for the overall test. Scores on the 14 initial-test ratings were correlated (Person's r) with the scores on the 14 retest ratings. The test-retest correlation are as follows: *Overall Perceived Educational Needs* was $r = .93$; *Personal Need* was $r = .85$; *Social Need* was $r = .92$: and *Occupational Need* was $r = .91$.

High test-retest correlations (like those obtained, $r > .80$) indicate that the ratings are relatively stable over time (Wiersma, 1991); however, the test-retest results in this study must be viewed with caution due to the small sample size used in determining these values. Further research may be needed to more accurately evaluate the stability of the set of descriptors over time. Based on the recommendations of the panel members, NGT and pilot test participants, the final set of descriptors for perceived educational need were developed. Table 1 presents the completed instrument – Georgia Adult Agricultural Education Needs Assessment Survey.

Potential Applications of the Instrument

One of the primary objectives of this study was the development of a set of educational needs descriptors that could be used to evaluate the perceived needs of adult learners attending agricultural education programs in the state of Georgia. Test-retest reliability and internal consistency values above .80 are considered acceptable for allowing the use of an instrument in making instructional planning decisions (Wiersma, 1991). Adult learners in the pilot test phase of this study stated that the set of descriptors was very easy to rank and took no longer than ten to fifteen minutes to complete. Therefore, the educational needs descriptors have the potential to provide practical, valid and reliable adult learner-focused assessment aimed at describing perceived educational needs. The instrument derived from this study could be used in the identification of learner needs and aid in the development of an understanding of how learner fulfillment of expectation (perceived need) impacts program success or failure. In essence, the set of descriptors provides Georgia's agricultural education department with an instrument that identifies adult educational needs to be addressed in future program planning and instruction. The educational need descriptors developed in this study can also provide a foundational base for the development of assessment instruments addressing educational need constructed by agencies in other states offering adult continuing education programs not only in agricultural education but in other curriculum areas as well.

Table 1.

Georgia Adult Agricultural Education Needs Assessment Survey

To help us provide quality programs to the communities we serve please provide the following information. Thank you for your assistance.

Subject of the most recent adult agriculture education course you attended:

Check each statement which describes why you participated in this course. (You may check more than one.)

_____ a. It was required by my employer
_____ b. I wanted to improve my chances for promotion
_____ c. I am interested in beginning my own business in this area
_____ d. I wanted to learn something new (no previous knowledge on topic)
_____ e. I wanted to expand my community & social contacts (meet new people, etc)
_____ f I wanted to increase my knowledge on the course topic
_____ h. Others (specify)

Indicate the most important reason for your participation by circling the corresponding letter in question # 2 above.

Approximately how many different adult agriculture education courses have you attended in the last three years? ___________

List up to three adult courses that you would most like the Agriculture Education department to offer. See examples of course offerings on back of this page. *Feel free to indicate topics not on list.*

a.

b.

c.

Check the one factor below which would be the most important in your decision to attend a course in the future:

________ a. Occupational Training Need
________ b. Personal Enrichment
________ c. Social Interaction

Your ethnic/racial background?

______ a. White (not of Hispanic origin) ______ d. American Indian
______ b. African - American (not of Hispanic origin) ______ e. Asiaor Pacific Islander
______ c. Hispanic ______ f. Mixed Races

Are you retired? _____ a. Yes _____ b. No

Your gender? _____ a. Female _____ b. Male

Most recent job:

Age as of your last birthday?

Examples of possible Adult Agricultural Education Courses

- Adjusting Harvesting Equipment
- Agricultural Machinery Electrical Systems
- Agricultural Machinery Hydraulics
- Agricultural Machinery Maintenance & Operation
- Ammoniation of Forages
- Annual and Perennial Gardens
- Artificial Insemination
- Backyard Habitat : Design and Plant Selection
- Beef Cattle Nutrition
- Bookkeeping
- Beef Herd Management
- Canning and Food Processing
- Cattle Production on Timber Land
- Consumer Meats Evaluation and Selection
- Concrete Construction
- Controlling Disease and Parasites of Livestock
- Dairy Cattle Nutrition
- Diesel Engine Maintenance & Repair
- Electric Motors & Controls
- Electrical Wiring
- Establishing Forests
- Establishing and Maintaining Lawns
- Estate Planning in Agriculture
- Farm Organization and Management
- Farm Standby Power Systems
- Fertilizing Field Crops
- Field Crop Seed Selection
- Field Crop Insect, Disease and Weed Control
- Floral Design
- Forest Herbicides
- Forest Planning and Maintenance
- Fish Production
- Food Spoilage, Sanitation and Thermal Processing
- Fruit Production
- Harvesting Forest Products
- Harvesting, Storing, and Marketing Field Crops
- Herb Gardening
- Horse Nutrition
- Horticulture Industry Certification
- Income Tax and Social Security
- Irrigation Design and Installation
- Landscape Design
- Landscape Installation and Maintenance
- Managing Forests for Pine Straw Production
- Marketing Forest Products
- Meats Evaluation (Beef and Pork)
- Microcomputers in Agriculture
- Pasture and Forage Production
- Pesticide Safety
- Planning & Construction of Agricultural Structures/Buildings
- Planning & Construction of Fences
- Planning Livestock Buildings and Equipment
- Planning and Maintaining the Home Greenhouse
- Pond Installation and Management
- Poultry Production and Management
- Preparing and Freezing Food Commodities
- Producing Christmas Trees
- Providing Habitat for Wildlife
- Pruning Shrubs and Trees
- Selecting and Breeding Cattle, Horses, Swine, Sheep
- Servicing Portable Power Equipment
- Sheep Management
- Small 4-Stroke Cycle Engines
- Surveying Methods and Practices
- Swine Management
- Tractor Operation and Maintenance
- Two-Cycle Trimmers and Blowers
- Turfgrass Production and Management
- Utilizing the Forest for Recreation
- Vegetable Gardening
- Venison Processing and Utilization
- Watergardens: Design, Installation, and Management
- Welding
- Woodworking with Power Tools

Georgia Adult Agricultural Education Needs Assessment Survey

In deciding to participate in an adult agriculture education course, how IMPORTANT to you are each of the following?	NOT IMPORTANT	SLIGHTLY IMPORTANT	MEDIUM IMPORTANT	VERY IMPORTANT	EXTREMELY IMPORTANT
1. Improve a skill for personal enrichment	1	2	3	4	5
2. Learn how to be a more effective consumer	1	2	3	4	5
3. Achieve personal goals	1	2	3	4	5
4. Become better informed about the course subject	1	2	3	4	5
5. Develop a sense of self-reliance	1	2	3	4	5
6. Gain knowledge that may benefit me financially	1	2	3	4	5
7. Gain satisfaction from being involved in self-improvement	1	2	3	4	5
8. Develop positive feelings about myself	1	2	3	4	5
9. Learn about community agricultural activities	1	2	3	4	5
10. Increase my appreciation of this subject	1	2	3	4	5
11. Increase my social contacts	1	2	3	4	5
12. Assist other participants by bringing and attending class with them	1	2	3	4	5
13. Develop new relationships with others in my community	1	2	3	4	5
14. Interact with friends/family	1	2	3	4	5
15. Attend a social meal function	1	2	3	4	5
16. Become more involved in community activities	1	2	3	4	5
17. Represent my employer at a community activity	1	2	3	4	5
18. Qualify for an entry level occupational position	1	2	3	4	5
19. Support of local agricultural education program	1	2	3	4	5
20. Develop skills to qualify for greater job responsibilities	1	2	3	4	5
21. Increase my job earnings	1	2	3	4	5
22. Learn a new job skill	1	2	3	4	5
23. Improve my chances for promotion	1	2	3	4	5
24. Increase confidence in my occupational skills	1	2	3	4	5
25. Update knowledge related to my occupation	1	2	3	4	5

If you would like to receive a summary of the research results, check box and print your name.

The instrument developed in this study will contribute to the body of research literature by filling a current void that exists in the agricultural education program planning relevant to incorporation of the interests of the primary recipients of the programs, the adult learners. Additionally, within this study, a systematic process for the construction, validation and testing of a needs assessment instrument is presented. Future investigators working in the field of agricultural education or in related adult education fields can reflect on this model as they determine the steps they will take in development of new needs assessment instruments. Moreover, future research should develop an evaluation instrument that would investigate learners' perceptions of the success or failure of programs in meeting their needs, as well as, compare these two perceptions and examine the effectiveness of the courses in actually meeting the needs of the learners.

The construct of educational needs developed within the present study also contributes to the body of knowledge relative to defining needs in the context of the development of valid needs assessment instruments. In this study, the literature-based perceived educational needs descriptor items within each subscale (personal, social and occupational) were found to be highly correlated. This finding supports the interrelationship of the items and their contributions to building the overall construct of perceived educational needs.

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FEEDBACK SEEKING IN TRAINING SETTINGS

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This survey-based study investigated the role of feedback in nine management-development training settings in a British government agency. Distinguishing among different sources and types of feedback as provided by the instructors and sought by the participant, the results of this study suggest that participants sought information about their performance frequently and from a variety of sources. Instructors tended to overestimate the importance of the feedback they provided. The amount of feedback sought was related to judgements of relevance of the training and on the teaching styles employed by the instructors. The study indicates the feedback seeking is important in the process of management development training. The implications of these findings for further research and the practice of management development are discussed.

Management training and development ranks among the most frequently provided types of training. Research results of a nation-wide study in the United Kingdom in 1999 (Institute of Personnel and Development, 1999) revealed that among 400 randomly selected private and public organizations it ranked first with over 75% of organizations providing "a lot" of management training and an additional 20% providing "some". In the United States, it ranks second in frequency after new employee orientation with 93% of companies providing this kind of training (Bassie & Van Buren, 1998). Management training and development (MD) is broadly defined as "the attempt to improve managerial effectiveness through a planned and deliberate learning process" (de Bettignies, 1975, p. 4); the two most important goals of MD programs, according to a survey by the Conference Board are to develop leadership skills in managers and to insure a pool of capable people to run the organization (Walter, 1996). MD typically includes training in areas such as performance appraisals, implementing regulations and policies, managing projects and processes, and planning and budgeting (Bassie & Van Buren, 1998) and is directed to broad range of employees ranging from first-line supervisors and team leaders to mid-level managers. MD is distinct from executive development, which is usually targeted towards current and potential senior executives and focuses on corporation-wide initiatives or major business units and includes strategic planning, policymaking, and goal setting (Bassie & Van Buren, 1998).

While much has been written about the importance of management and leadership skills (for the purpose of this paper, both terms will be used interchangeably, conceptual discussions over their differences notwithstanding), there is less research about the content of MD and even less about the process of MD. This paper will report the results of an empirical study conducted in a series of MD settings focusing on one key instructional process element, feedback.

Feedback is a key component of any learning process. Successful training programs incorporate feedback as an instructional design element (Goldstein, 1993; Kovitz & Smith, 1985) and also during instructional delivery to increase learning and the transfer of learning (Schoenfeldt, 1996). Recent research articles have addressed the role of feedback in different training and education settings, for instance in industry training (Viau & Clark, 1987), for supervisors providing in-service staff training (Parsons & Reid, 1995), and in college and university education settings (Dunkins & Precians, 1992, Brinko, 1993).

The focus of this study was a particular aspect of feedback, the process of feedback seeking by participants of MD programs. Feedback seeking has been described as process by which actors purposefully and actively seek to obtain information to "determine the adequacy of behaviors for attaining valued end states" (Ashford, 1986, p. 466). In a comprehensive review of the literature related to feedback seeking, Madzar (1995) asserted the importance of the concept for HRD practice and suggested its important role for training in general and management development in particular.

This current study was built upon the assumption that individuals self-regulate to a large extent (Bandura, 1986) and are actively involved in seeking information to monitor their progress towards specific goals. Management development programs are especially well suited to investigate feedback seeking because they present novel situations for participants who are advancing in an organization. New behaviors, knowledge, and skills are introduced which are of importance to employees who will assume new levels of responsibility. MD often serves as a rite of initiation and signals impending enhanced status and responsibilities. One key dimension of leadership is what Conover (1987, p. 585) termed "managing self" which includes monitoring progress towards goals and evaluating one's skills, strengths, and weaknesses. Feedback seeking behavior is an important source of information with regard to this dimension.

Research Questions and Hypotheses

The study addresses four overall research questions, related to (1) information sources, (2) individual antecedents of feedback seeking, (3) contextual antecedents related to instructor behavior and training design, and (4) the outcomes of feedback seeking.

Information Sources

The first question addressed the types of information sources that participants made use of to seek information about their performance during MD. Previous research (Van Dyne, 1992) has established three categories of sources of information for feedback seeking in work situations: constituencies (e.g., supervisors, coworkers, customers, subordinates), systems (e.g., tasks, work systems, job aids), and the self (one's own thoughts and feelings).

> H1. Related to their performance in MD settings, participants rate the amount and frequency of feedback sought as well as the its usefulness from psychologically close sources as greater than that received from psychologically distant sources.

Previous research had yielded findings that run counter to the importance that is often ascribed to managers in regulating employee performance. Greller (1980), when comparing supervisor and subordinate perception of the usefulness of six sources of feedback, concluded that supervisors generally overestimated the importance of their own feedback to subordinates and simultaneously underestimated the value of task and self feedback as perceived by subordinates.

The second hypothesis built on this research and addressed how accurately MD instructors judged the feedback from different sources.

> H2: Instructors' estimates of the amount, frequency, and usefulness of feedback sought by participants accurately reflect the participants' self reports.

Individual Antecedents

The second research question centers on the individual-level antecedents of feedback seeking behavior. While many individual level variables have been proposed as potential antecedents, only a few have been substantiated in empirical studies.

> H3a. Learning goal orientation will be positively correlated with amount, frequency, and perceived usefulness of feedback seeking.
>
> H3b. Performance goal orientation will be negatively correlated with amount, frequency, and perceived usefulness of referent information seeking.

The literature reports negative relationships between feedback seeking and tolerance for ambiguity: individuals with a lower tolerance to ambiguity engage in more feedback seeking behavior to gain certainty about their performance (Ashford & Cummings, 1985). To test whether this logic also applies in MD settings, the fourth hypothesis was:

> H4: The higher an individual's tolerance for ambiguity, the less the amount and frequency of feedback information the individual seeks.

A third variable for this study was the instructor's training style. Previous research (Madzar, 1995) had found that employees seek information more often from supervisors who are acting as role models, who pay individual attention to each employee, and who challenge employees to think critically. This leader behavior, known as charismatic or transformational leadership in the leadership literature, has been proposed to also apply to education and training situations (Walumbwa & Kuchinke 1999). The following hypothesis resulted:

H5. Participants who perceive their instructor as charismatic, motivating, intellectually challenging, and showing individual concern, seek more feedback and do so more frequently.

Contextual Factors

Behavior is always determined by individual and contextual factors, two of which were used in this study. The first was concerned with the instructor's behavior related to providing feedback to participants. Because there are costs in terms of effort and energy associated with seeking feedback, the amount of feedback sought is likely to be limited (Ashford & Cummings, 1983). Further, seeking feedback from one source limits the opportunity to seek feedback from another. Thus:

H6. The amount and frequency of feedback sought from different sources are negatively correlated.

The second contextual factor examined in this study was the amount and frequency of feedback provided by the training activities. Since feedback constitutes an important training design element, it can be assumed that the amount and frequency of feedback provided by the materials and training activities will influence the amount of information sought from the self.

H7. The amount and frequency feedback provided by training activities are negatively correlated with the amount and frequency of feedback participants seek from the self.

Reactions to Training

This fourth research question addresses the question of the effects of feedback seeking on reactions to training. Reaction measures are limited in gauging the value of training, but are valuable in this context where the primary intent was to measure the outcomes of feedback seeking behavior and not to evaluate the effectiveness of training.

H8. Participants who seek more and more frequent feedback exhibit a greater willingness to learn, a greater intention to transfer the training, and are more satisfied with it.

Methodology

The population in this study consisted of participants and instructors of MD training programs in a U.K. Government Agency (Agency) of about 3,000 employees. The Agency had an HRD unit of 16 employees responsible for development and training services as well as internal consulting. MD constituted a key responsibility of the HRD unit because of the need to develop and retain managerial talent and to ensure a pool of qualified employees for internal promotion and succession. The focus of this study was a series of five -day training courses for employees who had been identified by their supervisors as potential future leaders. Courses were offered on average once per month and attended by 10 - 15 participants from various parts of the Agency. The courses followed a highly standardized curriculum and delivery process to ensure consistency of learning across courses and were delivered by teams of two instructors who belonged to the HRD unit. The curriculum focused on organizational issues, such as the overall strategic direction of the Agency and strategic planning and strategy implementation, and on organization behavior issues such as motivation, team building, communication, and learning styles. The courses were primarily instructor- and theory centered, but also included some role-plays, case studies, and action planning. Prior to a course, participants met with their supervisor and developed a performance contract that specified the particular performance issues on which to focus during the training. There was also in place a follow-up process designed to ensure the transfer of learning to the workplace.

The researcher observed several courses prior to the study and collaborated with HRD management and training personnel on its design. Survey data were collected from nine consecutively held courses over a seven-month period in 1998. . Five courses were taught in a residential mode and held at a seaside resort in the South of England. Four courses were taught in a non-residential mode where participants attended during working hours and then left for home. A total of 98 participants and 9 instructors completed the surveys, resulting in a response rate of over 95% for participants and 100% for instructors. MD participants were on average 34 years of age, had 11 years of professional experience, and were relatively new to their current position. Instructors, on average, were older and had lower levels of formal education but longer professional and job-related experience.

Participant and instructor versions of the instruments were given out at the close of the final training day, completed anonymously, and forwarded to the researcher. Initial results and conclusions were reported to the Agency in late 1998 with the intent of identifying opportunities to improve the training course.

The survey instrument consisted of existing scales with known and acceptable psychometric properties and was pilot tested with a group of HRD graduate students. The pilot confirmed the reliability of the scales, yielding Cronbach's alphas of .7 or higher. The instrument contained standard demographic questions and the following 5-point Likert-type scales:

1) Amount, frequency, and usefulness of feedback sought from different sources: 12 items developed by Greller and Herold (1975)
2) Performance goal orientation: 6 items from Dweck (1986)
3) Tolerance for ambiguity: 3 items from Bennett, Herold, and Ashford, (1990)
4) Perception of Instructor: 16 items from Bass and Avolio (1995)
5) Motivation to learn: 5 items from Weinstein, 1994
6) Intention to transfer learning: 4 items from Holton, Bates, Seyler, and Carvalho, 1997
7) Reaction to training: 4 items from Kuchinke, Brown, Anderson, and Hobson (1998)

Results

The results show descriptive statistics, reliability indices, and zero-order correlations among the variables. All scales showed sufficient (Nunally, 1967) reliability. The mean scores for the four feedback sources suggested that the 98 participants in 9 MD courses did engage in feedback seeking to substantial degree (the scale anchors were 1: none, 5: lots) and that they sought feedback from a variety of sources. They did not, however, seek feedback from all sources equally. Instructors acted as the primary source of information on how well participants were meeting the learning goals of the course, followed by their peers and the course activities, and their own thoughts and feelings. This finding is in contrast to previous research where the self was the primary source of feedback. The first hypothesis, therefore, was not confirmed.

The four supraordinate variables were correlated highly (for feedback sources and instructor behavior) and moderately (for reaction measures and individual variables) correlated within each other. Among the variables, there were much fewer and lower correlations, with exception of moderate correlations between charismatic and, to a lesser degree, considerate instructor behaviors and feedback sources. This suggests that the more participants perceive their instructors as charismatic and considerate of their needs, the more they will seek feedback from all sources, and vice versa. An interesting finding was the negative correlations between reaction measures and feedback sources. The negative association between feedback seeking from the instructor and the other course participants and the positive reaction training, in particular, requires careful interpretation. It suggests that participants who seek more feedback from their instructors and peers tended to be less satisfied overall with the training and vice versa. The study did not address the issue of the quality of feedback participants were able to obtain. It is possible that students were looking for information that would help them make the course more relevant but never succeeded and were therefore dissatisfied with it. This question requires closer attention in a follow-up study.

The second hypothesis (H2) addressed specific aspects of feedback seeking: the amount of information sought from each source, the frequency with which they sought feedback, and its usefulness. The results shows that instructors, too, expected feedback-seeking behavior by the course participants to occur, that they recognized different sources of feedback, and that their estimation of the relative importance of the sources varied. Instructors, like course participants, saw themselves as a more important source of feedback than peers, activities, or the participants' own thoughts and feelings. Instructors did, however, rated their own role as providers of feedback as higher than did participants ($p < .05$), and this difference was due to an overestimation of the frequency of feedback they provided ($p < .05$). This finding fails to confirm, in part, H2: as in previous research with managers in work performance situations, instructors of MD programs did not accurately perceive their feedback behavior. They overestimated the frequency with which they provided feedback to MD course participants.

Hypotheses 3 - 7 addressed correlations between feedback seeking and the individual variables of goal orientation and tolerance for ambiguity and instructor variables. Zero-order correlations had yielded some initial, but sparse indications of these relationships. A series of stepwise multiple regression analyses was performed with feedback source (instructor, peers, activities, and self) and feedback characteristic (amount, frequency, and usefulness) as dependent variables.

In the regression analyses, reaction to training emerged as the most important predictor to feedback seeking from Instructors, Peers, and Activities, accounting 25%, 23%, and 11% of variance respectively. In all three cases, the regression weight was negative, suggesting that participants who are not satisfied with the training tended to seek more feedback from instructors, peers, and course activities than those who were satisfied. It should be noted that this was a post-hoc survey at a single point in time. Nevertheless, the fact that the survey was taken at the end of the 5-day training course suggests that participants had a chance to reflect back over the entire week to judge both their satisfaction and feedback-seeking behaviors. Feedback seeking emerged here as a compensatory mechanism that participants employed when the course did not meet their expectations rather than the valuable resource that the literature ascribed to the construct.

Charismatic behavior by the instructor added to participants seeking feedback from him or her.

When examining the overall frequency of feedback-seeking behaviors, professional experience emerged as a very strong predictor variable, accounting for 89% of the variance. The relationship is positive and almost perfect, suggesting that those with more professional experience also tended to seek feedback more frequently than those with less experience.

In light of these findings, H3 - H8 could not be confirmed.

> The final hypothesis addressed the relationship between feedback seeking and reaction measures. Here, again, stepwise multiple regression analyses were conducted. Performance orientation emerged as a strong predictor variable for motivation to learn and also for intention to transfer the learning to the workplace, accounting for 51% and 50% of variance respectively. In both cases, the beta weights are positive, indicating that the higher an individual's desire to demonstrate his or her abilities, the greater the motivation to learn and to transfer the learning after the end of the MD training course. These findings were surprising given the theoretical definition and previous research that had associated higher levels of performance orientation with a decrease in the willingness to learn because individuals are primarily focused on demonstrating their abilities rather than exploring new ways of performing.

Another surprise was the strong negative correlation between intellectual stimulation and reaction to the course. Where in previous research, leader behavior that challenges individuals' assumptions and encourages them to think in new ways had been shown to contribute to satisfaction with that leader, this study showed the opposite effect. The more participants perceived the instructor to challenge beliefs and assumptions, the less satisfied they were overall with the course.

H8, based on previous research, had hypothesized positive correlations between feedback-seeking behavior and motivation to learn, intention to transfer, and overall reaction to the course. None of these relationships were substantiated by the data and H8 could not be confirmed. Instead, the first two variables appeared to be influenced by an individual's level of performance orientation, and overall satisfaction with the course depended on how little the instructor challenged participants views, values, and behaviors.

Conclusions

Feedback-seeking research is an emergent strand in the organizational behavior (OB) literature and extends traditional feedback research by proposing that employees actively pursue a number of strategies to obtain feedback about their performance. This study sought to extend this line of research into a key area of HRD, management development training. Studying feedback-seeking behavior in a series of MD courses, this study suggests a number of conclusions.

First, it appears legitimate to extend feedback-seeking research to MD settings. Feedback-seeking behavior tends to occur in MD settings, where, in contrast to the OB literature, not work performance, but learning is the goal. As in regular work settings, MD participants engage in feedback-seeking behavior, they seek substantial amounts of information about their performance, they do so frequently, and seek out a variety of sources. The instructor emerged as the primary source of feedback in terms of amount and frequency of feedback sought and its perceived usefulness. Residential courses appeared to encourage seeking feedback from peers and course activities, presumably because there are more opportunities to interact than in a non-residential mode.

Second with regard to the accuracy of their own perception, MD instructors acted much like managers and supervisors in other studies, that is, they overestimated their own role in providing frequent feedback. Both roles bear similarities that might account for this: managers and instructors carry responsibility for the employee and participant performance outcomes and exert control to direct them toward these outcomes. Both groups also appear to underestimate the extent to which employees/participants self-regulate.

Third, in contrast to the OB literature, feedback seeking did not appear as a valued and positive resource. The negative association between feedback and overall satisfaction seems to suggest that those who sought more feedback were also less satisfied with the course. Feedback seeking here appears as a strategy that participants applied when the course did not meet their expectations.

Fourth, few of the hypothesized relationships based on OB literature were confirmed in this study. Charismatic behavior of the instructor was positively associated with feedback seeking, but accounted for only 10% of the variance. Professional experience emerged as a strong predictor of feedback seeking, perhaps suggesting that those with more experience were more focused on attaining specific goals and sought the information they needed to monitor their goal attainment.

This study is among the very few that investigated the role of feedback seeking in MD settings. Replications and extensions of this line of investigation are required to build a reliable knowledge base on this topic. Among the more imminent research needs are: replication of this study with other types of training and in different organizations; replication with training that is more student-centered and perhaps might provide more opportunity to seek feedback from sources other than the instructor; feedback seeking in applied problem-solving situations, such as experiential learning and action learning set with complex task without clear answers and solutions.

Several implications for practice emerge from this study. First, the training of trainers should include the concepts of self-regulation and feedback seeking among course participants. Instructors who overestimate their own importance in providing feedback might fail to recognize the role of feedback from other sources. Second, participants of MD programs should be prepared to be alert to feedback from sources other than the instructor, especially their own thoughts and feelings. Upon completion of the training when participants are required to act in complex and novel situations, like leadership situations, the Self will oftentimes be the sole guidepost for assessing whether a particular course of action is appropriate or not.

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PHILOSPHICAL FOUNDATIONS OF HUMAN RESOURCE DEVELOPMENT

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The research, theory, and practice of the field of Human Resource Development are based on often unspoken assumptions about the concept of adult development. Examining these assumptions is useful for researchers and practitioners because of the possibility of more deliberate choices and improved scholarship and professional practice. Three alternative views of adult development can serve to distinguish competing schools of thought, each rooted in different philosophical traditions and political thought. The person-centered view aims at self-realization of the individual and is grounded in humanistic psychology and liberalism; the production-centered view focuses on organizational goals and is based on behaviorism and libertarianism; and the definition of development as principled problem solving is grounded in cognitive psychology, progressivism, and pragmatism. Each view serves as a root construct for a specific orientation toward the role and function of the profession. By highlighting the differences between these views and their relative strengths and shortcomings, the author seeks to advance the theoretical foundation of the field and to contribute to more reasoned theory and practice.

The research, theory, and practice of the field of Human Resource Development are based on often unspoken assumptions about the concept of adult development. Examining these assumptions is useful for researchers and practitioners because of the possibility of more deliberate choices and improved scholarship and professional practice. Three alternative views of adult development can serve to distinguish competing schools of thought, each rooted in different philosophical traditions and political thought. The person-centered view aims at self-realization of the individual and is grounded in humanistic psychology and liberalism; the production-centered view focuses on organizational goals and is based on behaviorism and libertarianism; and the definition of development as principled problem solving is grounded in cognitive psychology, progressivism, and pragmatism. Each view serves as a root construct for a specific orientation toward the role and function of the profession. By highlighting the differences between these views and their relative strengths and shortcomings, the author seeks to advance the theoretical foundation of the field and to contribute to more reasoned theory and practice.

Paradigmatic debates are still rare in the field of Human Resource Development (HRD) that is relatively young and concerned with gaining and expanding its academic legitimacy relative to the established fields of adult education, vocational education, and the array of management and organizational sciences. The practice of HRD is firmly established, with US organizations expending over $200 billion per year on HRD interventions (Training, 1997) and an exceedingly vibrant training and consulting industry operating in this country and abroad. Still, there are continued calls for more and better research and recommendations for practice to keep up with the pace of technical, political, economic, and social changes that organizations face in this global economy.

As an academic matter, HRD programs are now firmly established in US graduate schools. HRD enrollments are among the fastest growing in schools of Education where the "training of ...HRD professionals is now the 'bread and butter' activity" (Gray, 1997, p. 80). Here, paradigm debates can deepen theory and provide the foundation for new research.

What philosophical debates exist in HRD have centered on whether professional HRD activities should promote 'performance' or 'learning'. Swanson and Watkins argued this issue during the profession's annual conference in 1995 (Holton, 1995), Dirkx (1997) juxtaposed earning and learning in discussing the meaning of work, and Barrie and Pace (1998) argued for the adoption of a liberal education framework for the HRD profession. The learning focus is most prominently advanced by those adult education scholars, who claim

HRD as an area of practice (for example, Dirkx, 1997). More recently, Kuchinke (1998) has attempted to reconcile these perspectives by using a progressive learning philosophy.. Lewis (1996) described a model that differentiated proactive from reactive training along several context, process, and outcome factor dimensions. Watkins (1989) described five alternative metaphors for the HRD professional: organizational problem solver, change agent, designer, empowerer, and developer of human capital.

No attempt, however, has been made to analyze the field in terms of its understanding of 'development', a concept so centrally positioned in the name of the profession. What HRD professionals view—implicitly or explicitly—as the purpose and end of developmental activities for persons in organizations gives rise to very different models of HRD. Since HRD is an applied field and therefore concerned with practical problems—deciding what to do and what action to take (Copa, 1985)—HRD professionals address not only what is, but predominantly what should be. Reasoned practice, however, depends on reflective choices of the ends or purposes of action, and it is at this normative level that the distinction between different views of HRD becomes most salient and revealing. Should HRD practice aim at the well being of the individual worker, as Bjorquist and Lewis (1992) argued, or should the interests of the shareholders predominate, as Friedman (1970) advocated? Should HRD aim primarily at responding to business needs and corporate goals, as Rummler and Brache (1990) proposed, or is a stakeholder model of the organization more appropriate, whereby HRD functions as the advocate of valid and legitimate interests of an inclusive set of groups that shape corporate strategy (Evan and Freeman, 1988)?

> The purpose of this paper is to answer the following questions: How can different definitions of human development in organizations be used to distinguish alternative HRD philosophies? How do these frameworks differ in terms of their philosophical and political assumptions and contributing schools of thought? How have these frameworks informed HRD theory, and how has HRD practice been conceived from each perspective? And, finally, what new directions are emerging from theory and practice that might overcome the shortcomings of existing philosophies and more adequately answer to the challenges of the rapidly changing world of work?

Frameworks of Human Development

HRD theory and practice appear to be driven by three different theoretical approaches related to the purpose of developing persons in organizations. These frameworks can be classified following the classic work of Lawrence Kohlberg and Rochelle Mayer (1972) who distinguished among three streams of educational ideologies, romantic, cultural transmission, and progressive. A similar triarchy was described by Malcolm Knowles (1984) who described three models of adult education: mechanistic/behaviorist, cognitive, and organismic/humanistic, each associated with unique strategies for learning and based on "three different models of man" (p. 6.6).

The system developed in this article classifies schools of thought according to the central focus of the developmental activity: person-centered, production-centered, and principled problem solving. Each is rooted in different philosophical traditions and makes specific assumptions about the nature of human beings and the nature of organizations and society.

Table 1 presents the frameworks of human development in greater detail. Each is described in terms of its roots in philosophy and the social sciences, the proposed aims or end goals, the assumptions about human nature, and about the nature of organizations and the larger economic and societal context.

Person-Centered Development

The concept of person-centered development in HRD is rooted in the philosophical traditions of idealism, humanism, and romanticism. Romanticism was an intellectual movement that was at its height toward the end of the 18th and early 19th century (Flew, 1979). In more recent times, the romantic notion of development was expressed by A. S. Neill, whose Summerhill represented an example of a school based on these principles, and proponents of the California growth movement, who emphasized inner growth and the connection to one's inner reality. Personality theorists of humanistic psychology—the "third force" in psychology— included scholars such as Henry Murray, Gordon Allport, Abraham Maslow, and Carl Rogers.

Strongly influenced by Existentialism, they carried the romantic tradition into contemporary times. Many concepts and theories in organizational development, a field within HRD, have their origins in this philosophy.

The person-centered notion of development is the discovery and unfolding of innate qualities, of the inner good and inborn health of the human being, and the search for personal fulfillment and meaning. Successful development means being all one can be. Individuals are seen as proactive, rational, self-aware, and complex; they possess freedom and dignity; and carry the responsibility to find meaning for their lives. There is the assumption of a tendency toward positive values and a strong emphasis on inner states and feelings. Performance, skills, achievements, tasks, and responsibilities and duties are not satisfying in themselves, but important as means to inner growth, awareness, happiness, and health.

Table 1
Classification of Theories of Human Development

	Person-Centered	Production-Centered	Principled Problem-Solving
Philosophical Roots	• Humanistic Psychology: (Maslow, Rogers) • Romantic Idealism: Rousseau • Existentialism	• Behaviorism: Skinner • Libertarian Philosophy: Smith, Friedman,	• Cognitive-developmental Psychology: Kohlberg • Pragmatism: Dewey, James • Radical Humanism: Aktouf • Postmodernism: Kincheloe
Aims of Human Development	• Self-development, • Allow "inner good" to unfold; Remove barriers to maturation	• Competently and efficiently fulfillling organizational roles; • Increasing performance as defined by organization	• Integration and synthesis of internal and external demands; • Dynamic balance of competing claims; • Self-development through performance
Assumptions about human nature	• Inborn wisdom and goodness; • Health equals happiness	• Needs/wants determined by society/culture; • Health equals adjustment	• Ability to integrate external and internal demands; • Experience is paramount; • Health equals adequate cognitive understanding
Assumptions about nature of organizations	Optimal organizational. Functioning achieved through happy people	• Goal oriented, • Goals determined by owners, • Human capital employed to achieve goals	• Stakeholder model; • Temporary and dynamically changing configuration of needs/wants of various stakeholders
Examples	• Maslow's Hierarchy of Needs • Herzberg's 2-factor theory • Spirituality, • Meaning of Work, • Quality of Worklife	• Industrial Training • Rummler and Brache • Mager and Pipe, • Performance Technology	• Lawler: high involvement organizations; • Masick/Watkins: Learning Organization

Person-centered development and the organization.

In the organizational realm, the person-centered notion of development translates into the desire for a caring, nurturing environment where employees can blossom and draw on their innate capabilities and skills. Organizations function optimally when the barriers to self-development are removed, and 67when an open and trusting environment is created in which individual creativity can be revealed. This orientation relies heavily on the notion of reality as socially and individually constructed (Berger & Luckman, 1966) and is largely silent about prescription for the structure of society or business.

Examples in the organizational realm abound: Maslow's hierarchy of needs is based on a latent developmental sequence that comes from within (Maslow, 1970); the goal of development and the key to meaningful work are the actualization of the self. Herzberg's two-factor theory of motivation is based on a congruency model of matching inner needs with external tasks (Herzberg, 1966). W. Edwards Deming and other proponents of Total Quality Management based their philosophy on the willing worker, the motivated employee who wants to do a good job but is stymied by a system of management or work design that makes good work impossible (Deming, 1982). Russ-Eft's (1996) survey found that close to half (47%) of the HRD consultants interviewed held views similar to the person-centered view of HRD, advocating training be "primarily provided for the individual's benefit" (p. 404).

Strengths of the person-centered approach

The strengths of this philosophy of HRD lie in the compelling ideas of the perfectibility of the human being, the importance of individuals and their responsibility to the self, and the role of the untapped potentialities inside every one.

It places the locus of control over and responsibility for the individual's life and actions squarely at his or her feet. Following the Kantian imperative, persons should always be treated as ends in themselves, never as means to an end. It proposes that employees are stakeholders in their organizations whose rights are on par with the shareholders and owners. The perspective paves the conceptual way for employee participation and employee wellness approaches. Nadler's (1984) definition touches upon this understanding of adult development when he provided the following definitions: "learning [is] for growth of the individual, but not related to a specific present or future job....Development is designed to help individuals grow, through learning in general, not necessarily in a specific direction" (pp. 1.22-1.23).

Critique

The person-centered view of HRD, however, is also vulnerable as a reasoned basis for HRD because it is largely silent about the economic dimension of work in organizations. While self-development might well be seen as a primary individual goal and perhaps a public good that deserves support in form of educational opportunities for everybody, it is not the primary charter of organizations operating in a competitive environment. Organizations incur direct, indirect, and opportunity costs when conducting HRD activities. These costs will put them at an economic disadvantage unless the pay-off of HRD interventions exceeds their costs and provides a return on investment. Because employees are free to leave an organization at any time, organizations incur a risk when enhancing an employee's level of skill. For this reason, firms invest more in organization-specific training than in general training and education (Tharenou, 1997). For very similar reasons, countries with greater rates of employee retention tend to provide more—and more general—training than countries where employment relationships are more short-lived. Unless there is a clear economic rationale, person-centered development activities will not find the support in most organizations. Organizations exist—and managers are legally bound to manage them—in the interests of their owners (and 43 percent of the U.S. workforce now own stock as a result the growth of retirement and pension funds invested in mutual funds). Inner growth must be the primary responsibility of the individual, it is not the charter of the organization, and managers are neither charged to provide personal development nor are they, in most cases, capable of doing so competently.

Production-Centered Development

While the person-centered view of development emphasizes individual needs and goals, the concept of production-centered development stresses the enhancement of the productive capacity of a person as the goal of development. The role of HRD is to transmit knowledge, skills, and the social and behavioral rules of the organization. Successful development means the acquisition of prerequisite skills, knowledge, abilities, attitudes, and values in order to be able to respond favorably to external demands. This framework depends heavily on role theory (Stryker and Statham, 1985); development is evaluated in terms of the degree of fit between measurable and observable behaviors and role expectations, and not, as in the case of the person-centered view, in terms of feelings, thoughts, or other internal states. In the 1940s this position was expressed well by Dooley in The Training Within Industry Report (cited in Swanson and Torraco, 1995, p. 2): "Training is for the good of plant production—it is a way to solve production problems through people; it is specific and helps people to acquire skills through the use of what they learned."

Production-focused development and the organization

In this view, organizations are primarily goal-oriented entities, structured and organized around the achievement of goals set by management on behalf of the owners or shareholders, and they acquire and develop human and other resources to achieve those goals. The role of the individual is to contribute to the goals set by the organization, and the task of HRD is to equip employees with the requisite attributes to do so. The view of employees is functional: humans are seen as resources, employed to fulfill specific functions and defined, within the organizational context, by those functions. Development is the degree to which individuals are becoming equipped to fulfill their roles and contribute to the attainment of organizational goals. An example is given by Rummler and Brache (1990) who posited that individual level performance management was defined by the following: individuals understand the job goals; have sufficient resources, priorities, and logical job design; are rewarded for achieving job goals; receive feedback; and have the necessary knowledge and skills. This view of HRD is supported by 14% of the HRD consultants surveyed by Russ-Eft (1996).

Strengths of the production-centered approach

The strength of this framework lies in its ability to find quick responses to well-defined problems. Within an immediate time horizon, HRD can help provide the knowledge, skills, and attitudes required meeting clear objectives. In situations where clear goals exist, where these goals are agreed upon and supported, where the ways to meet these goals are proven and known, and the required resources are available, production-focused HRD can provide the necessary support to meet these important objectives. This view is predominant in the management sciences, including organizational behavior, organizational theory, industrial/organizational psychology, and industrial relations. It posits the rational aspect of an organization, makes planning and strategy possible, and enables forecasting, and goal setting.

Rooted in a libertarian philosophy (Maitland, 1994), the relationship between employee and the organization is characterized by rational and free choice and a clear contractual understanding of the rights (for example, pay, benefits.) and duties (for instance, task, working hours) by each party.

Critique of the production-centered approach

The primary criticism against this view centers on the nature of modern organizations. The production-centered view portrays organizations as static, closed, mechanistic systems rather than open systems in dynamic, continuous interchange with the external environment. In many organizations, requirements change frequently, and employees and managers alike satisfy rather than maximize the demands of multiple constituents. As Weick (1990) asserted, there is a growing consensus that management is "more like cartography than like the board game 'Mastermind' in which people try to discover a pre-set pattern" (p. 317). Without a pre-set pattern of correct answers, work becomes a response to a continuously shifting set of preferences that requires active and intelligent interpretation by all participants. Where organizational goals are ambiguous and means to achieving those goals uncertain, narrowly defined job skills are of limited effectiveness. Swanson and Torraco (1995) spoke about this complexity when introducing a taxonomy of performance with two tiers—managing the system and changing the system. As they and other observers of the changing nature of work (for example, Reich, 1991) noted, the specific definable and trainable tasks that formed the vast majority of work in the early part of this century are giving way to more amorphous, ambiguous task requirements. This calls for a broader range of skills, attitudes, behaviors, and abilities for which the production-centered model with its mechanistic notion of skill transfer may no longer be adequate.

Principled problem solving as the goal of development

When the person-centered view of development was the unfolding of innate, latent patterns and potentialities, and the production-centered model stressed the adjustment of the individual to the demands of the external environment, the principled problem-solving view seeks to overcome the shortcomings of both. It is the most complex stance and perhaps the most difficult to implement. Based on the progressive educational ideology (a term first introduced by John Dewey) it defines development as "an active change in patterns of thinking brought about by experiential problem-solving situations" (Kohlberg & Mayer, 1972, p. 455). This framework mirrors and expands the central concepts of the progressive education movement.

Progressivism stresses the interactive, dynamic aspect of problem solving in a given social situation. It focuses on the primacy of experience and experiential learning, on the active involvement of individuals in emergent problematic social situations. The emphasis is neither on the internalization of established goals or values, nor the unfolding of spontaneous impulses and emotions, but the "active change in patterns of response to problematic social situations" (Kohlberg & Mayer, 1972, p. 455). The aim is the achievement of a solution that satisfies all participants given the specific situational constraints.

The aims of development under this approach are to foster the ability for optimal functioning through critical thinking and problem-solving, for an integration and synthesis of internal and external demands, and of balancing competing claims with the goal of functional (in the broad, pragmatic sense) optimization of the situation. This includes an examination of the underlying assumptions of a given situation, an awareness of the historical conditions that have led to the current situation, the ability to take others' roles and perceive accurately the perspectives of all parties involved, and the personal maturity and integrity to find creative solutions in situations where scarce resources demand tough decisions. Rather than advocating the exclusive development of the self, or blindly adhering to an external goal, this approach suggests the continuous re-definition of a given situation in light of its requirements, the courage to challenge past solutions and examine current assumptions, and the consideration of dynamically changing configurations of the needs and wants of all stakeholders.

Principled problem solving and HRD

Support for the dynamic problem-solving notion of development can be found in the early writings of Chris Argyris, who in 1964 envisioned that "the organization of the future will ...include expanded use of the individual's intellectual and interpersonal abilities" (Argyris, 1964, p. 274). Human Resource Management scholars such as Walton, who distinguished between the control model and the commitment model, further address it. The latter is characterized by broader job design policies, high performance expectations, revised compensation policies, employment assurance, employment voice policies, and a changed management philosophy where "the fulfillment of many employee needs is taken as a goal rather than merely as a means to other ends" (Walton, 1985, p. 49). In more recent writing, Lawler (1992) described the involvement-oriented approach to management which is "highly congruent with democratic values about decision making and respect for individual rights" and which has "a definitive competitive advantage (perhaps the single most important advantage) over the control-oriented approach" (Lawler, 1992, p. 43). The high involvement organization is based on strong commitment to continuous development and improvement across a wide spectrum of skills and abilities, technical as well as cognitive and interpersonal. High performance organizations have implemented employee involvement practices, such as sharing information, developing knowledge, rewarding performance, redistributing power, and maintaining an open flow of communication throughout the organization. These organizations draw on the expertise of a broad range of employees and use diversity strategically. They embrace the changes in the social, technical, economic, and political spheres of life (Lawler, Mohrman, and Ledford, 1995. The notion of the Learning Organization, founded on open and free communication, exchange of ideas, and an attitudes towards inquiry and insight (Marsick & Watkins, 1994) is a further extension of this approach.

These principles appear in organizations like 3M which has instituted the widely known "15 percent rule", allowing engineers to spend up to 6 hours per week on work not directly related to current production. In return, each department is expected to generate enough new product ideas so those products that are developed in the past three years generate 40% of annual sales volume.

Another example is Zytec, recent winner of the Malcolm Baldrige National Quality Award. Zytec instituted semi-autonomous work teams where employees have wide decision-making power related to the work processes. In return, gain-sharing and pay-for-performance plans allow employees to share the financial benefits of the enterprise.

Strengths of the principled problem solving approach

The major strength of this orientation to HRD is its inclusiveness and systematic nature. In a fast-changing world, the resources, concerns, and needs of all must be considered, and an inclusive approach is superior to win-lose or lose-lose propositions. Secondly, this approach is capable to address issues of global scope, social justice and democratic values, and attempts to find solutions to the complex problems of a democratic market economy. It provides for full participation of all employees and has the potential of creating situations where everybody wins. It rejects that the world is a zero-sum game and proposes creative solutions to difficult problems. It represents a value orientation that balances economic goals with social goals, and has the potential to realize the vision of organization development community of a democratic and egalitarian work place (Gellerman, Frankel, and Ladenson, 1990). It offers the vision of the worker as researcher (Kincheloe, 1995), and the development of expertise through contextual learning and experimentation (Bereiter and Scardamalia, 1993). It lastly offers the opportunity for work that is satisfying, interesting, stimulating, and productive.

Critique

A major shortcoming of this approach to human development is its requirement for long-term commitment and development in a competitive market place that oftentimes rewards short-term success. Maitland (1994) addressed this problem and argued that political changes must precipitate changes in organizational policies, in order to avoid punishment of organizations that forego short-term profits for the sake of long-term development. As long as organizations are evaluated on quarterly fiscal results alone, long-term strategies that sacrifice short-run results for long-term gain may not become widespread. However, as Aktouf, writing from a radical humanistic perspective, observes: "this movement toward a more human firm is neither a romantic ideal nor a philanthropic gesture, nor a utopia, but a necessity .... [Organizations] need to step out of the Taylorian rut....[T]he time has come for the employee who knows how (and is allowed) to think, to react, to modify" (pp. 417-418).

Secondly, many companies, especially start-up and small firms, are unable to invest in the long-term development of their employees, and there are some job categories that do not require extensive use of higher-level cognitive skills and problem-solving abilities. Lastly, not all employees may be willing to become involved and take on greater shares of responsibility and participation, so that the developmental approach may only be applied selectively.

Conclusion

In this paper, the author proposed that the principal foundations and assumptions of the various theories, concepts, and practices of Human Resource Development might be understood as three distinct approaches: person-centered, production–centered, and principled problem solving. These approaches are based on different philosophies of adult development. This attempt at a classification and explication of the roots and strengths and potential shortcomings of each approach can be useful for furthering theory and practice of the emerging HRD field.

As a practical matter, understanding the premises of each approach can lead HRD professionals to more informed choices. Reasoned practice, after all, is based upon a reasoned philosophy of action. A HRD professional who is, for example, faced with lagging work performance in an organization might approach this issue from any one of the three proposed approaches: From the person-centered perspective, she might propose to post the names of top performers on the lunchroom bulletin board and hold monthly award ceremonies for these employees to instill pride in the good performers. From a performance-centered philosophy, she might propose switching from to a piece rate or pay-for-performance system to provide incentives to work harder. From a principled problem-solving perspective, she might propose an open-book management strategy where employees are given full information about the implications of poor performance for the stakeholders and charter cross-functional teams to investigate the root causes of the problem and develop solutions. A HRD professional who can select from a number of different approaches will be likely to have a wider range of choices than one who is tied to only one perspective.

A second implication for practice is related to the newly evolving strategic role of HRD. Over the past 10 years, HRD has changed from a narrow function limited to designing and delivering training to a much broader organization-wide role (Gilley & Maycunich, 1998). Recognizing the competitive advantage of a committed and well-qualified workforce, HRD professional are becoming increasingly charged with developing organization-level HRD strategies. Strategic decisions, however, are choices over competing values and principles, and many organizations develop HRD philosophies to guide them. Being educated in the different HRD approaches will enlarge a firm's range of options in developing a firm-specific HRD 'signature', a set of guiding philosophies, values, strategies, and practices.

A third implication of this explication of different HRD philosophies is for educators and trainers of HRD professionals and other educators working in and with organizations. Organizations are now providing the majority of learning activities that working adults will experience; the preparation of HRD professionals, therefore is of critical importance. Training and education in HRD should include information and reflection of the paradigmatic and philosophical foundations of the field. While adult and vocational education university curricula often include at least one course addressing the history and philosophy of the respective, many HRD introductory courses and textbooks that I am aware of give only short shrift to such matters, instead focusing on functional topics such as instructional design and technology.

Finally, the issues raised in this paper impact research and scholarship. Researchers need to be aware of their own philosophies and value positions regarding the aims of developing persons working in organizations. They ought to state their value preference in the written research reports so as to allow the audience to situate the report and understand its merits and limitations. Secondly, empirical work and further theory development are necessary to learn more about the results of HRD activities conducted within each of the three approaches.

There is also a need to further address the philosophical and moral/ethical dimensions of HRD, areas not easily suited for empirical work. Here, questions include: What are the ethical/moral responsibilities of an organization towards its employees and vice versa? What are the boundaries of development that an organization can demand that an employee undergo? How to resolve value conflicts between an organization's HRD philosophy and the values/beliefs of its employees? How can the requirements of a competitive market economy and the call for democratic workplace practices be reconciled?

HRD is a field that is growing in importance and size. Because of its pragmatic orientation, much of the theorizing and research have held a functional flavor with largely unstated assumptions about values. As the field develops, a clearer and more open debate over its core values and philosophies is needed. I hope that this paper can begin a dialogue over one key aspect of the field: the aims and desired outcomes of development of persons in organizations through the field of HRD.

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LIFE AFTER COLLEGE: CAREER EXPECTATIONS OF DIVISION I AFRICAN AMERICAN FOOTBALL PLAYERS

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This study examined the career focus experiences and career concerns of Black football players. The sample for the study consisted of eight upperclassmen (sophomore, junior, senior, and graduate students) on the 1997-98 football squad at The Pennsylvania State University. The participants were identified through personal contacts and referrals. Each participant engaged in an in-depth interview. An analysis of the interview transcripts answered the following research questions: (1) What are the perceptions of Black football players regarding their college and career focus? (2)What are the perceptions of Black football players regarding their career after college? Most of the participants began their career focus experience before they arrived to college. Many of the participants discussed the difficulty of managing athletics and academics. The participants in this study realized the importance of obtaining a career in their chosen field of study. All of the participants believe that they are prepared for a non-football career or graduate school after college. Some of the participants described how athletics helped prepare them for life after college. Reasons for this belief include physical and mental maturity, discipline, and improved time management.

There is much concern that intercollegiate athletics has become a profitable way of life for some universities. Many of these institutions place more emphasis on athletics than on academics. Nowhere is the imbalance more evident than in the manner in which Division I institutions admit and orient student-athletes to the college experience (Hamilton, 1991). Intercollegiate players are often uncertain about the expectations of coaches, their athletic programs and most importantly, the academic demands of the institution (Edwards, 1991; Nettles, 1994).

Through the media, the public has become aware of the potential problems regarding the quality of education that college athletes receive. The media suggest that while athletic administrations publicly proclaim that their student-athletes are students first and athletes second, their primary interest is in keeping players eligible for the season using whatever means are necessary (Purdy, Eitzen, & Hufnagel, 1982). This belief is so pervasive that many people assume that corruption of academic ideals is prevalent at Division I institutions. In many instances, the public perception is that many of these institutions are exploiting African American student-athletes by using their athletic skills for economic gain without helping these athletes develop transferable skills necessary to compete in today's job market (Edwards, 1991).

Critical areas of African American student-athletes' personal and cultural development have been so overshadowed by the demands and consequences of sports participation that many emerge from the athletic experience seriously impaired in their abilities to be productive adults in the broader society. African American society is diminished in its ability to encourage capable African American youths to fulfill extremely important roles in fields outside of sports--such as medicine, education, law, and public service.

Minority educators are constantly making efforts to prove that African American males do graduate and pursue traditional careers, and thereby dispel the myth that all African American males want to become professional athletes. The problems and overall plight of African American males continue to demand the attention of the educational community, as well as of our society in general (Hamilton, 1991). Many African American athletes are not being adequately prepared for life once their collegiate sports careers are over. Reasons given include lack of preparation by the student-athlete, perceived discrimination by professors, and inadequate academic counseling (Cheatham, 1991).

African American student-athletes are seriously considering playing professional sports as early as high school. In a Harris poll conducted in November 1990, 59% of African American high school athletes indicated expecting to play sports in college, and 40% of this same sample felt they could make it in professional sports. At some point during their four to five years in college --during which these student-athletes maintain dual identities--they realize that their lives after college are not likely to include professional athletics. Adler and Adler (1991) point out that African American students who compete in the revenue-generating sports of basketball and football are labeled as athletes, and narrow their focus as they progress through their universities. This identification process, which typically accompanies changes in their major fields of study, could have a detrimental effect on the student-athletes' exploration of employment options prior to and after graduation.

Many African American athletes are recruited to "play ball," and most are satisfied with that opportunity. Invariably, the men dream of careers in professional sports. Yet, many institutions seem to capitalize on the professional aspirations of African American athletes until their eligibility has expired. This unsavory practice takes place on college campuses where occupational preparation supposedly includes an assessment of the students' abilities to realistically meet the demands of a future profession (Edwards, 1991).

Relevant Literature

> *Cheatham (1991) identified African American males as having special needs. While scholars acknowledge that these clients do face unique circumstances in preparing for their careers, a comparatively small amount of literature exists which addresses this issue. The knowledge base of academic and career options must be broadened for African American student-athletes (Dunn & Veltman, 1989). For example, African American males are underrepresented in education, engineering, and science programs (Brown & Brooks, 1991).*

Experts agree that career information and planning alone will not solve the academic problems faced by African American student-athletes. Hoyt (1989) presented discouraging statistics regarding the limited educational equity of all minorities. His recommendations included renewed attention to Carter and Swanson's (1990) suggestions that members of the counseling professions (i.e., academic, athletic, and career) should be actively involved in producing and using knowledge to minimize stereotyping. Cheatham (1990) presented a culture-specific model of career development for African American students. He suggests that society is best served by models that incorporate the experiences of all its co-cultures. Researchers agree that issues related to the academic and career development of African American students are unique. Therefore, counseling models that recognize cultural differences--as well as the psychological stress experienced by African American male student-athletes--are needed (Sellers & Kuperminc, 1997).

Lubell (1988) identified several internal and external barriers experienced by African American males. The most important internal barriers (i.e., related to self) include unrealistic attitudes, aspirations, and expectations; lack of information (personal, academic, and career); and limited previous work experience. These factors contribute to producing unskilled African American males. The most important external barriers (i.e., focused on the environment) include poor adjustment to college, time and schedule restrictions, racism and discrimination, inadequate educational preparation, and limited career/vocational guidance. By encouraging a African American student-athlete's false hope of becoming a professional athlete, the institutions are not giving the student-athlete the option to consider a skill or trade that will allow him to succeed once his collegiate days are over.

Each constituent of the university who interacts with African American student-athletes is responsible at some level for assisting all student-athletes to maximize their potential so that they can become complete and responsible individuals. According to Hamilton (1991), "this will enable them to make a valuable contribution to society, regardless of whether or not they pursue a professional sports career" (p. 64). During the latter half of the 1980s, sports were not of primary importance to African American student-athletes; they were more concerned about academic success (Carter & Swanson, 1990).

As a group, African American male student-athletes enter college with lower GPAs and lower SAT and ACT scores than White student-athletes (Edwards, 1991). In short, African American student-athletes are at a disadvantage when they arrive on the campus, and many schools do little to correct this academic deficiency. When the marginal student/outstanding athlete arrives on campus, he is likely to find that his first activity is not becoming acquainted with the library or the classroom, but getting to know the playing field. This is especially true of those who play football, since practice typically begins before fall classes commence.

Some African American student-athletes do not attend college to obtain an education; they view college as a necessary avenue to the world of professional sports. Those athletes who do want an education often find that the demands of college sports sometime take precedence over academics. Although many African American student-athletes have some desire to continue competing at the professional level, the reality is that less than 10% will achieve that goal (Edwards, 1991). The job market is extremely competitive. The unusual distribution of wealth (and income) is becoming even more disparate. In effect, African American males have fewer job opportunities, and those jobs that are available for skilled and semi-skilled minority workers tend to offer lower pay and fewer benefits (Eitzen & Zinn, 1989). Thus, it is crucial for African American student-athletes to put forth their best efforts toward identifying a realistic and beneficial career path.

Research Method

The study focused on the themes associated with these student-athletes' recollections. The recollection process began with the football players' expectations when they first arrived on campus, followed by their actual experiences of career development, and concluded with their projections for what would happen after college. Based on the framework of phenomenology, two questions guided the data collection and analysis process:

1. What are the perceptions of African American football players regarding college and their career focus?
2. What are the perceptions of African American football players regarding their career after college?

These research questions were generated from the literature review on the career development of both African American student-athletes and African American students in general. The questions were created and refined from a phenomenological perspective with an open-ended focus and an exploratory nature. The questions focused on some of the prevalent issues associated with the career focus of African American student-athletes that are often unacknowledged in research.

Participants

The participants in this study were African American football players who are upperclassmen. The researcher wanted to interview upperclassmen because it is believed that students usually start thinking seriously about the future around the sophomore year in college. The final years in college often bring about a more reflective evaluation on the kind of experience they have had thus far.

The researcher obtained a program guide from the Athletic Office in order to identify (and subsequently contact) those players who met the study's requirements. After the African American upperclassmen were identified, a list of candidates was compiled and sent to the Athletic Department. The sampling method and the number of participants included in the sample were chosen to increase credibility. The rationale for using purposeful sampling was to assure that the range of stories and experiences were heard when the interviews were conducted (Patton, 1990). Morse (1994) provides a basis for the sample. She states that approximately six participants are needed to demonstrate the phenomenological approach. In-depth information from a small number of people can be valuable and rich, thus illuminating the question under study (Patton, 1990). The interviews were conducted during spring semester (February) 1998.

To ensure confidentiality, the actual identities of the participants in this study are known only to the researcher. Key informants provided the addresses and telephone numbers of the subjects, for the purpose of communicating with the participants. Other specific details not critical to the study could have unnecessarily compromised this confidentiality also have been altered.

Data Collection Procedures

The interviews took place at four different locations throughout the campus. Each participant was offered one of the four locations and asked which would be the most convenient place to have the interview. Each of the participants kindly said, "It doesn't matter to me," thus arriving at one of the various locations used for the interviews. Interview sites were chosen based on the locations most familiar to both the participants and the interviewer. In addition to the locations used for the pilot interviews, the Holuba Indoor Sports Complex Building and Nittany Apartments' Community Center also were used.

The norm was two interviews conducted in a single day. The appointments were scheduled between 9:00am and 6:00pm. The interviews were conducted over a span of two weeks. The shortest interview lasted 45 minutes, and the longest lasted 90 minutes. The overall average for the 8 interviews was 60 minutes. In all settings, the participants appeared at ease and candid, accepting note taking and the presence of a taping device as a natural part of the process.

A modified version of the in-depth phenomenology-based interviewing process was used (Seidman, 1991). The format is described as "open but focused" (p. 122). The interviews conformed to the interview guide, which was prepared beforehand. The questions were arranged sequentially, but were spontaneously adapted to adjust to the flow of the interview. Many of the participants naturally answered some of the questions in the midst of conversation, enabling the researcher to adjust the sequence of questions.

The audio tape recordings were the primary source of input: specific anecdotes or comments were transcribed to preserve the accuracy of contextual language or jargon. Rubin and Rubin (1995) note that "with subject-defined data, the length, detail, content, and relevance of the data are not determined by the researcher, but recorded 'as spoken' or 'as it happens,' usually in the form of notes or tape recordings" (p. 14).

Data Analysis

The data for the study were derived from the interviews conducted with each participant. Interview material was unitized, coded, categorized, and interpreted based on these data. The researcher's notes also were included as part of the analysis. The analysis process used is described below. Miles and Huberman (1994) describe most analysis in qualitative research as being done with words. All of the interviews were transcribed verbatim. All transcriptions were verified and edited for accuracy. Specific codes for the identification of each transcript were generated. The codes consisted of numbers and letters. Line numbering was used to facilitate the analysis. The raw data of the interviews were the quotations.

A modified van Kaam analysis was used for this study. The steps are as follows: (1) Participants were assigned a number. (2) During the interview, themes and keywords were recorded in the interviewer's notes. (3) Themes were underlined on the transcript--*Horizontalization*. (4) Relevant responses were cut from the transcript and placed onto a poster board. The poster board displayed each question asked in the interview and the response from each of the participants--*Reduction*. (5) The underlined themes were coded with the participant's number, question number, a general code, and a specific code. (6) Themes were then grouped together and placed onto another poster board--Clustering and Thematizing. (7) Verification of the categorized quotes was made by colleagues to ensure validity (Vantilburg & Archer, 1988). (8) A summary of the themes was developed--*Composite Description*. (9) A summary of the participant's interview was sent to the respective participant--*Member Checking*. (10) Pseudonyms were given to each participant.

Results

The average age of the participants was 22. Of the eight participants who participated in the study, three were from an urban area, four were from a suburban area, and one was from a rural area. Of the seven participants whose parents/guardians work, five participants reported that their parents/guardians were "working class," one reported "technical," and one reported "professional." The eighth participant reported that neither parent/guardian worked. Their vocational choices represented majors in a variety of colleges, including Health and Human Development, the Liberal Arts, Business Administration, and Education. The interview questions were instrumental in determining the themes embodied in the content of the interview. The interview guide consisted of 21 questions designed to provide data that, when analyzed, would answer the two research questions.

Research Question #1. What are the perceptions of African American football players regarding their college and career focus?

Early Exposure to Career

Personal testimonies suggest that participants were introduced to their choice of career either directly or indirectly. Several of the participants mentioned that their choice of occupation was largely influenced by family members or personal interests that began before entering college. A high school field trip to a major university was a memorable experience for one of the subjects. Actually, it was the exposure to various professors and their disciplines that created a desire for higher education in this student. Children need to be exposed to such opportunities to spark their interest and allow it to grow.

Two Things at the Same Time

The strong interest in a non-football career continued when the participants entered college. Many studies report that athletes must perform "double duty" when they enter college, especially if that player is on an athletic scholarship. Most of the studies reviewed seem to examine the same theme—that athletes tend to focus more on athletics than on education. In contrast, the participants in this study did not reflect this thought. The football players noted the difficulty of managing both academics and athletics, especially when one is more physical than the other. Many African American student-athletes leave the team and college because the demands of "juggling" athletics and academics are too great. It takes discipline to manage both.

They also are aware of the importance of having a more practical career focus. When asked, "What type of career would you like to pursue?" only one responded with *professional football*. The others responded with non-football careers. This debunks the myth that all African American collegiate football players want to play professional football. Participants admitted that the thought of playing professional football was in the back of their minds, but was not their only dream. Despite current literature, African American football players are choosing to master the dual role of athlete and student.

All of the participants realized the importance of graduating and pursuing a non-football career. Several of the respondents stated that they will do their best if invited to try-out for a professional team, but realized the opportunity to play professional football, although great, is not the most important thought on their mind. Maintaining good grades and graduating from college were major factors for all participants in this study. The subject of happiness with their chosen career path was mentioned throughout the interview. The study participants stressed that they could be happy and successful without professional football.

Expectations of Collegiate Experience

Many of the participants felt that they could have interacted with people outside of their sport. Doing so would have lessened the feeling of isolation often experienced by many African American athletes (Lubell, 1988). Due to the negative stereotypes of student-athletes, they often felt like no one really wanted to help them to succeed. A couple of students believed that some people on campus are not willing to help African American football players, even when they ask for help. For example, Terry had approached his professor to ask a question about an assignment, but before Terry could ask his question, the professor said, "If you need more time to complete the assignment the answer is no. All assignments must be turned in on Friday." Terry looked at the professor and said, "I wanted to know if I can hand it in on Wednesday because I leave for an away game on Thursday." Terry expressed his frustration with that situation, but then commented, "I hear that so much, now I just overlook it". Several of the participants mentioned situations similar to Terry's experience.

Research Question #2. What are the perceptions of African American football players regarding their non-football career after college?

Contribution of the University

Another theme that emerged from this study was the participants' belief that they are prepared for a career after they leave college. Several participants indicated that involvement in athletics had contributed to their maturity and discipline, and improved time management skills. All of these traits are needed to be successful in any career; however, practical skills also are important in becoming more marketable in the workplace. Overall, the study participants felt that they are (or will be) prepared to either enter graduate school or find a job in their chosen field.

Work Experience

Of the eight participants, only two had work experience in their fields of study. Of those who had no work experience, a frequent reason cited was scheduling conflicts with athletic obligations. Several participants said that the summer would be the best time to gain work experience.

Life after College

Participants in their senior year indicated the most consideration of possibilities post- college. All participants mentioned that being ready to graduate and begin the next stage in their lives. Several stated that the ideal future would be to play professional football of a few years, while enrolled in graduate school during the off season. All of the players who said that they had hoped to play professional football, also stated that they only wanted to play for five to eight years, long enough to make money and be happy with their loved ones. They also wanted to get out before they were forced to retire due to injury. I did not expect to hear this type of response, which shows that the participants have an understanding of the reality of playing professional football. This also shows that the dream of playing professional football would not be the end career for most of the participants. They want to play for a few years, then continue with their original career choice.

Conclusions

This study uncovered valuable information on the actual thoughts of African American football players. Some of the existing literature paints a dismal portrait of African American student-athletes' prospects for non-sports careers (Hamilton, 1991). One such study was conducted by Lide (1991), who interviewed African American professional football players attempting to adjust to a forced retirement. More than half of his participants were bitter because they did not have plans for a second career. Findings from this study suggest that the African American student-athletes at Penn State do not perceive themselves in the same way. All of the subjects in this study felt that they would be happy and successful with a position in their current field of study. This work has shown that some African American football players have aspirations other than professional football. They are sometimes hopeful that their chance to play will come; however, it is not the career that will provide the greatest fulfillment to them.

Recommendations

One of the values of research is the utility of findings at a practical level (Morse, 1991). This study provided a foundation for a variety of future research efforts. An ethnographic study could be conducted on the difficulty of balancing athletics and academics. Current literature merely notes the existence of the difficulty, but offers no recommendations for its solution. This study addressed the difficulty of managing athletics and academics as explained by the football players themselves. However, more qualitative studies on the actual life of an African American football player would provide greater detail to the existing literature. Another study could focus on why some African American football players realize the importance of having a strong academic and career focus and others do not.

The universities that excel in graduating African American football players should be applauded, but there are twice as many universities that fail to retain African American players. The topic of negative stereotyping of African American student-athletes also should be addressed. Such studies can examine the athlete's thoughts on how the negative stereotypes affect their ability to perform academically at a higher level. Finally, a follow-up to this study is recommended. A two- or five-year follow-up on the participants to see if they were able to achieve their stated future plans would provide additional information needed to enhance the development of African American football players.

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LARGE-SCALE STATE GOVERNMENT SURVEY OF OFFICE WORKERS' TRAINING NEEDS: IMPLICATION FOR VOCATIONAL EDUCATION

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This paper reports on a large-scale, statewide survey of office support/clerical employees in Louisiana state government to determine occupational training needs. To identify the "felt" training needs, 11,016 surveys were distributed in a single mailing resulting in a return of 7,117 completed questionnaires, a 65 % response rate. The paper's focus is on the methodology, survey instrument development and administration, and how the resulting data was tabulated and analyzed to provide useful reports for those responsible for vocational training.

Globalization, technological advances, and other workplace factors have placed an increased need for more competent and skilled employees in both business/industry and state government. Numerous studies have been conducted that have assessed the training needs of, competencies required by, and tasks performed by office workers in business and industry, but little has been done to examine the training needs of government office employees on a large scale (Alexander, 1996; Arney, 1998; Arzy, 1992; Chalupa, 1997; Davis, 1991; Davis, 1992; Davis & Chaney, 1993; Marino, 1993; McEwen, 1997; Norback, 1995; Ray, 1977; Radcliffe & Nespoli, 1984; Zhao, 1996).

Employees of the State of Louisiana are emerging from a long period during which little funding was available for employee training. A new state administration has recognized the strategic value of well-developed human resources. In 1997, the governor of Louisiana established workforce development as one of the priorities for his administration. To achieve this objective, several groups were established: the Workforce Commission within the Governor's office, a Task Force on Post-Secondary Technical and Adult Education, and the Occupational and Training Information System in the Louisiana State Department of Labor. The mission of the Occupational and Training Information Systems is to collect workforce data for the Workforce Commission to use in setting priorities and funding decisions on training programs.

The first step required in any effective training intervention is a thorough and systematic assessment of workforce training needs. Successful needs assessments provide the basis for establishing the performance improvement value of subsequent training. Because of the highly varied nature of agencies and units in state government and the large volume of needs assessments that have to be conducted, Louisiana State University was contracted to assist in assessing and prioritizing training needs. During the initial funding period (the first six months), this needs assessment project consisted of two phases. Phase I was to identify the current training needs of approximately 12,000 incumbent office support/clerical employees within the state civil service system for all departments and agencies throughout the entire state. Phase II was to develop a method for conducting needs assessment for all employees within a state department and to pilot this methodology with two departments. The second period of funding (a two-year period) is a continuation of Phase II, which involves identifying the performance training needs of Louisiana state government employees for individual departments based on the methodology developed during the pilot study.

The focus of this paper will be on the large-scale training needs of state government office support/clerical workers that were identified during Phase I of the initial funding period. The paper will cover the objectives of Phase I, the methodology employed to accommodate those objectives, including how the survey instrument was developed and administered, how the resulting data was tabulated and analyzed, and findings and recommendations. The paper will also explore the implication Vocational Education as well as Human Resources Development (HRD) training in government and business/industry.

Phase I Objectives

The objective of Phase I of the Louisiana State Needs Assessment Project was to conduct a needs assessment to identify current training needs for office support/clerical employees within the state civil service system. The specific objectives were to identify the "felt" training needs of office support/clerical employees: (1) for all office support/clerical employees, (2) by job clusters, (3) for each state department, and (4) for each agency within the departments.

Methodology

Instrumentation

As a first step in the design and implementation of a training needs assessment program, it is essential to properly appreciate and understand the scope of the problem that is to be addressed. To this end, a preliminary series of meetings was held between the Phase I Project Coordinator and various State officials that were identified by the Director of the Comprehensive Public Training Program (CPTP), Division of Administration. These meetings were instrumental in exposing the complexity of job titles, job descriptions, GS levels, and other intricacies of the State Civil Service System. Furthermore, they helped form a foundation upon which the task of identifying office worker classifications that should be surveyed for possible training needs. The overall process required an examination of specifications for office/clerical job titles associated with series 4000 registers (no typing test required of applicant) and with series 4002 registers (typing test required of applicant). Ultimately, 45 job titles were selected for the training needs assessment survey of office support/clerical employees. Based on job descriptions and GS levels, these 45 job titles selected were subsequently grouped into the following eight clusters: Accounting, Administrative, Office Management, Clerical, Secretarial, Transcription, Word Processor, and University Admission.

The next step involved identification of the appropriate content of the survey instrument. Focus groups were employed to determine important areas for inclusion in the training assessment study; a total of eleven focus group meetings were conducted. These focus groups consisted of state office/clerical workers representing multiple state agencies and encompassing a wide range of job titles. As a result of the 11 focus group meetings, it was discovered that there was considerable commonality of identified training needs across the groups. Therefore, it was decided that a single questionnaire should be developed. Also, it was anticipated that having one questionnaire would reduce the complexity of managing the distribution, collection, and tabulation of multiple versions of the instrument across the various state government departments and groups of office workers.

Based on the information obtained from the focus groups, a draft of the questionnaire was developed. A panel of experts was employed to review the questionnaire for content and design. A field test of the survey instrument was conducted with 16 office/clerical workers from the Department of Environmental Quality (DEQ), representing a wide range of job titles and various agencies within DEQ. The volunteers were asked to provide any suggestions or recommendations that would improve the instruments, to check the wording of the items, to make sure the directions were clear and understandable, and to keep track of their time in order to estimate how long it would take the typical respondent to complete the questionnaire. The average time to complete the survey instrument was 15 to 20 minutes.

The final draft of the survey instrument contained a total of 67 items covering nine training topic areas, 3 questions dealing with computer and related technology, space for writing open-ended recommendations and comments, and a section on demographics. The nine topic areas consisted of oral communication, written communication, files/filing, general skills, human skills, personnel issues, understanding general state procedures, understanding one's own department/agency, and work management skills. For each of the 67 training topics listed, the respondents were asked to use the following scale to indicate how much their job performance would improve if they were to be provided training in the topic listed: 1 = None, 2 = A Little, 3 = Somewhat, 4 = A Lot, 5 = A Great Deal, and N = Not Applicable. The frequency response to this scale was employed in the ensuing statistical analysis to provide a ranking of the relative importance of the various training topics addressed.

In addition to the 'pure' training topics covered above, the survey instrument included a section on computer and related technology wherein respondents were asked to identify the version of listed software used in performing their job. Further, they were asked to indicate their training needs for basic computer literacy, mainframe, a wide range of application software (e.g., WordPerfect, Lotus, Power Point), electronic mail, and the Internet by using the following scale: 1 = Don't need training, 2 = Completed basic training which was adequate, 3 = Need basic training, and 4 = Need more advanced training. The respondents were also asked if they would be interested in being trained to be an in-house resource person to help co-workers with computer software/hardware problems. Finally, in the demographic section of the questionnaire, the respondents were asked to identify their job title from among the list of 45 job titles surveyed. Additional questions dealt with work location, number of years spent working for the Louisiana state government, the number of years in current position, and level of education.

To reduce overall respondent error rate and encoding errors, an optical scanning sheet format was employed for the four-page survey instrument. The respondents were instructed to use a number two pencil to bubble in their responses. A side benefit of using a optical scanning sheet format was that the respondents' time to complete the questionnaire would be lessened somewhat, therefore, it was anticipated that they would spend less time away from their job and would be more likely to complete and return the survey.

To ensure anonymity, respondents were asked to identify their department, agency, and work location only. Upon receipt of the completed questionnaire, the CPTP staff assigned the appropriate organization I.D. number to a questionnaire I.D. code sheet. This optical scanning I.D. code sheet was designed to accompany the questionnaire for the purpose of associating the individual questionnaires with the appropriate organizations.

Administration of the Survey Instrument. The staff at the CPTP distributed the questionnaires to contact persons (human resource director or related person) at 272 State agencies. These contact people then distributed the questionnaires to all their office support/clerical workers. The contact people were asked to return the completed questionnaires within 3 weeks. Of the 11,016 questionnaires distributed statewide, a total of 7,117 completed questionnaires were received. The overall response rate for the State was 65%.

Analysis and Interpretation of Survey Results

For the eight job cluster representing the 45 job titles, statistical analysis software (the SAS System for Windows, Release 6.11) was employed to: (1) tabulate the scale response frequency for each questionnaire training topic; (2) rank order the 67 questionnaire training topics, based on an assigned score which is the percentage of the respondents that rated that item in either of the two categories of highest importance to job performance ("A Lot" and "A Great Deal"); (3) generate frequency and percentages on responses for basic and advanced computer training needs, for training as an in-house resource person, and for demographic information.

To recommend training for the 67 topics, the following criteria were used: If the ranked order score received was 60% or higher, then there was a perceived Widespread Need for training related to that item; if the score was between 40% and 59.9%, then there was Selected Group Need; and if the score was below 40%, then there was Individual Employee Need for that training item. For example, a score of 66.3 indicates that 66.3 % of the respondents rated the item either as of "A Great Deal" or "A Lot" with regard to its importance relative to their job performance. Therefore, this training item would be identified as a widespread need for training. For the basic and advanced computer training needs recommendations, the "need basic training" and the "need more advance training" response categories were reported separately in rank order with the highest need listed first.

Due to the comprehensiveness and large scale nature of this statewide training needs assessment of office support/clerical employees, the survey findings were delivered to CPTP in the following formats: (1) Global responses, based on all 7,117 completed questionnaires received; (2) Per job cluster, based on the eight different groups of job titles; and (3) For each of the 272 State organizations as identified by organizational I.D. number. The information provided in the first two formats was for use by CPTP in planning statewide and/or multi-agencies training. The third format was provided to each of the 272 agencies or organizations with a guide or key for interpreting the results.

Findings and Recommendations

Due to the sheer magnitude of this large-scale needs assessment, the findings based on the above analysis will be highlighted in terms of the methodology.

Return Rate

A 65 % return rate (7,117 out of 11,016) is considered to be successful for a one-time mailing of the questionnaire with a 3-week turn-around. Several factors may have contributed to the high response rate. First, the 11 focus groups involved 93 office support employees representing the different job clusters and different governmental agencies. Since the members were asked to provide input in the development of the survey instrument, there was tremendous buy-in. These same employees may have helped to motivate their fellow workers in completing the questionnaire. Second, the instrument was designed to be read and completed easily and efficiently. By having the respondents bubble in their responses on the optical scanning sheet format instrument, the actual time to complete the questionnaire was reduced. Third, the rationale section of the instruments was written to motivate the employees to complete the questionnaire by stating that they were being given the opportunity to express their perception of what type of training would help them in improving their job performance. Fourth, insuring anonymity may have also contributed to the return rate. Fifth, advance notice of the survey was sent to those individuals responsible for distributing the questionnaire at their agency.

Examining the return rate for the different job clusters, the largest number of global responses (all 7,117 respondents) was received from the largest cluster of office workers, the clerical group (2,700 questionnaires received). The highest global response rate by cluster was office management, 70.3 % (433 out 616). (See Table 1.)

Table 1. Questionnaire Response Rate by Job Clusters

Job Title	**No. Sent**	**No. Received**	**Response Rate**	**No. of Job Titles**
Accounting	326	182	55.8 %	1
Administrative	1,016	655	64.5 %	10
Clerical	4,274	2,700	63.2 %	8
Office Management	616	433	70.3 %	6
Secretarial	3,217	2,024	62.9 %	8
University Admission	99	46	46.5 %	2
Transcription	86	4	4.6 %	1
Word Processing	1,382	912	65.9 %	9
Missing Titles		161		
Total	11,016	7,117	64.6 %	45

Training Topics

Based on the ranking of assigned score for the 67 questionnaire items dealing with training topics from all 7,117 responses received, the respondents indicated that there were no topics that would have widespread need (a rank order score of 60 % or higher), but did indicate 20 training topics that had selected group need (a rank order score between 40 % and 59.9 %), and 47 training topics that had individual employee need (a rank order score below 40%). The 20 selected group training needs represents the following 7 topic areas: written communication, files/filing, general skills, human skills, personnel issues, understanding your department/agency, and work management skills. The 47 identified individual employee training needs represent all 9 training topic areas.

The findings, from the 7,117 completed questionnaires, indicated that widespread training needs were identified for 5 of the 8 job clusters and these needs were grouped into the following 3 topic areas: human skills, personnel issues, and files/filing. Table 2 lists the widespread and selected group training needs by topic areas for all respondents and for each job cluster. The human skills topic area was rated most frequently as a widespread training need. Stress management training, one of the 10 human skills training topics, was ranked first for 4 job clusters (accounting, clerical, university admission, and transcription) and fourth for office management. Oral communication appears to be the least needed training topic for the selected group needs. The identification of training topics by job cluster can be useful to curriculum planners at vocational business and office training institutions.

Table 2.
Widespread (W) and Selected (S) Group Training Needs Identified by All Respondents and by Job Clusters

Topic Area	All	Acc	Ad-min	Cler-ical	Office Mgmt	Sec	Univ Adm	Tran-script	W. P.
Oral communication					S			S	
Written communication	S	S	S	S	S	S		W	S
Files/filing	S	S	S	S	S	S	S	S	S
General skills	S	S	S	S	S	S	S	S	S
Human skills	S	W-S	S	W-S	W-S	S	W-S	W-S	S
Personnel issues	S	S	S	S	W-S	S	S	W-S	S
Understand general state procedures			S		S		S	S	
Understanding your dept.	S	S		S	S			S	S
Work mgm't skills	S	S	S	S	S	S	S	S	

Selected Group Need

Twenty training topics received assigned scores ranging from 40.1 % to 59.8 % (rank 20 to 1 respectively), indicating that there is a need to provide training to select groups of employees. The top 3 of these 20 topics received assigned scores ranging from 52.5 % to 59.8 %. (See Table 3.) It was recommended that training on these top three topics be provided to appropriate employee groups.

The remaining 17 of these 20 items identified for selected group training received assigned scores ranging from 40.1 % to 48.3 %, and are indicated in Table 4 according to their topic area. These 17 topics fell under the following topic areas: written communication (2 items), files/filing (1 item), general skills (3 items), human skills (5 items), personnel issues (2 item), understanding your department/agency (1 item), and work management skills (3 items).

Table 3:
The Top 3 Selected Group Training Needs Identified (52.5% to 59.8%)

Rank	Training Topic	**Topic Area**
1	Stress management/stress relief (59.8/%)	Human Skills
2	General knowledge of Civil Service Rules (52.7%)	Personnel Issues
3	Dealing with difficult people who are co-workers, supervisors, and subordinates (52.5%)	Human Skills

These 17 training topics were indicated to be important for job performance according to 40 to 49 % of the 7,117 respondents. The number of topics appears to be somewhat high, therefore, it was recommended that training in these areas might need to be considered in terms of the importance to the individual agency or department. Since 40 to 50 % of the state office workers deemed these training topics as important, vocational curriculum decision makers may want to address these skills as important job preparation topics.

Individual Employee Need

Forty-seven training topics received lower assigned scores ranging from 14.0 % to 39.9 % (rank 47 to 21 respectively), indicating that there may be a need to provide training to individual employees. The number of topics appears to be excessive, therefore, it was recommended that requests for training on these topics not be done across the various state organizations for the office workers, but that the training recommendations come from the individual organizations (agency/department). Training topics were found in all nine training topic areas. Since the actual number of respondents (7,117) was such a large number, vocational education curriculum developers may want to consider these items as viable training topics.

Software Usage

The respondents were asked to indicate what version of software they were using in their job. WordPerfect was used by over 60 % of the respondents followed by Microsoft Word (19.7 %). The following software was used less frequently: Lotus spreadsheet (18.1 %), dBase (11.0 %), Excel spreadsheet (9.4 %), PowerPoint (6.0 %), and Harvard Graphics (5.2 %).

Computer Training Needs

The respondents were also asked to indicate what computer training they felt was needed in order to perform their job more effectively on two levels: basic training and more advanced training. The respondents cluster ranked Internet training as their number one **basic computer training need** (48.9%), followed by Windows 95 (42.3), and E-mail (41.1 %). Between 36.6 % and 40 % of the 7,117 respondents indicated a felt need for training in the following areas (listed from highest to lowest demand): Lotus Notes, Microsoft Word, Microsoft Access, Excel Spreadsheet, Microsoft Word, Lotus Spreadsheet, PowerPoint, Harvard Graphics, and dBase. It appears that a significant number of office workers felt they could benefit from training in these computer areas. For the remaining software training topics, approximately one-third of the respondents felt there is a need for training in DOS, Grammar Checker, departmental mainframe, basic computer literacy, and WordPerfect.

For the area of **more advanced computer training**, only one topic was ranked considerably higher than the other topics--WordPerfect (35.8 %). The remaining advanced computer training topics did not appear to be critical to these employees, as a whole, in performing their job. It is interesting to note that the survey revealed that many employees were still using DOS and original versions of Windows. Since these technologies are changing so rapidly and the fact that State government is committed to upgrading technologically, it was recommended that computer training needs be assessed more frequently.

Table 4. The Remaining 17 Needs Identified for Selected Group Training (40.1% to 48.3 %)

Topic Area	Training Topic	**Rank Order Score**
Written Communication	Writing Skills for letters, memos, technical reports, etc.	46.2%
	Grammar / punctuation / Business English / proofreading skills	44.5%
Files/filing	Computer filing systems	48.3%
General Skills	Understanding Louisiana state government	43.1%
	Skills for providing training/instruction to others	40.3%
	How to write a procedures manual for your job	40.1%
Human Skills	Dealing with irate telephone calls	45.0%
	Conflict resolution with co-workers, superiors, and subordinates	46.2%
	Teamwork	40.1%
	Making the workplace a more professional environment	41.2%
	Dealing with difficult members of the public	47.3%
Personnel Issues	How to prepare and evaluate a job description	44.3%
	Civil service policies related to leave balances	42.9%
UnderstandY our Dept.	Cross training to fill in for other employees in your department	42.2%
Work Management Skills	How to locate and retrieve information	40.4%
	How to handle multi-tasks	40.3%
	Decision making skills	42.1%

In-House Trainers

To determine whether any of the office support workers would like to be trained as an in-house resource person helping co-workers with computer software/hardware problems, a question to this effect was included in the survey instrument. Almost forty percent (39.6%) of the 7,117 respondents indicated they would like to receive this type of training. Over a third (38.6 %) of the respondents were not interested and 21.8 % responded in the negative because there was someone already trained in their department to serve in that capacity.

Implications

The approach utilized and the unique problems encountered in this study of an unusually large- scale need assessment of office workers may be useful to other organizations in their move to performance driven human resource development. Examples of the unique problems associated were: (1) ALL employees throughout the entire state were to be given the opportunity for input; (2) 45 different job titles and civil service job descriptions were to be included; (3) The reading levels of the office support staff had to be considered; (4) Political implications, e.g., all state government departments though out the entire state had to be included in the study; and (5) This statewide needs assessment had to be conducted within a six-month period.

Implications for Governmental Training

Effective performance related need-assessments should to be linked to multidimensional strategies that include both top-down and bottom-up approaches to collecting information. The wide-scale survey used in this study did offer an efficient means for surveying an extremely large number of employees in a short period of time. According to Holton (1995), large-scale "felt needs" training assessment can be effective at boosting morale, but may have minimal success in improving performance. Therefore, the results from a large-scale felt needs survey should not be the only source used for identifying performance improvement training.

Implications for Vocational Office Education

These implications are based on the study findings for government office workers. The following suggestions are for the vocational business and office curriculum. (1) Human relations skills should be a top priority, especially in the area of stress management, dealing with difficult people who may be co-workers or members of the public, conflict resolution, teamwork, counseling skills, and professionalism. (2) Written and oral communication skills should also continued to be emphasized. (3) Filing procedures should include computer filing systems. (4) Work management skills should cover: how to locate and retrieve information, how to handle multi-tasks, decision making skills, prioritizing tasks, goal setting, dealing with deadlines, and following up on tasks and pending files. (5) Since training and continuous retraining has become a way of life in office occupations, it important that students are prepared for this role. The findings from this study stressed the need for the following types of skills: providing training/instruction to others, cross training to fill in for other employees, and how to write a procedures manual for one's job. (6) General skills should include the ability to understand organizational structure/chart, general workflow patterns, responsibility, confidentiality laws, proper office/business dress, general emergency procedures, purchasing and inventory procedures, travel procedures, mail procedures, and payroll procedures. (7) Basic skills should include reading, business-related math, keyboarding, use of office equipment, basic accounting/bookkeeping, and specialized terminology. (8) Computer/software training should continue to be a significant component in the curriculum. Since technology is changing so rapidly, the emphasis should continue to be on transferability of computer/software skills in order for students to have the skills and confidence to transfer their knowledge and skills to new technology. (9) For the more advanced student, it is highly recommended that curriculum consideration be given to training students as in-house computer/software trainers who would assist their future co-workers with computer-related problems.

The findings appear to support many of the recommendations from the SCAN and ASTD reports. SCANS identified two types of skills that high school graduates should posses: five groups of competencies (resources, information, interpersonal, systems, and technology) and three clusters of foundation skills that are necessary for success in the workplace (SCAN, 1992). These skills and competencies are considered generic to most jobs. ASTD report generated a list of seven skill groups/competencies of what employers perceived as essential to workplace success: learning to learn; the 3R's (reading, writing, computation); listening and oral communication; adaptability: creative thinking/problem solving; group effectiveness: interpersonal skills, negotiation, and teamwork; self esteem/goal setting; influence: organizational effectiveness and leadership (Carnevale,1990).

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ACEDEMIC AND AGRICULTURAL EDUCATION IN NORTH CAROLINA

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The purpose of this study was to determine the current level of vocational and academic integration achieved in North Carolina secondary public school agricultural departments. A secondary purpose was to compare the opinions of agricultural teachers who did and did not receive Southern Regional Education Board grant monies towards vocational and academic integration. Two comparison groups were examined: agriculture teachers in 23 schools that received SREB grants to integrate academic and vocational education and a similar group in schools that did not receive SREB grants. Infusion of academic content into the existing vocational curriculum is the predominant method of achieving vocational and academic integration. Agricultural teachers perceive that vocational and academic integration benefits both teachers and students. Agricultural teachers feel that there are significant barriers to vocational and academic integration. The most important barriers dealt with time, administrative, and financial support of this initiative. Receiving a SREB grant for vocational and academic integration did not affect teacher attitudes towards vocational and academic integration or the level of vocational and academic integration achieved. Overall, the level of vocational and academic integration in North Carolina secondary public school agricultural departments is described as fair.

Introduction/Theoretical Framework

Vocational and academic integration has been supported by both the teaching profession and business and industry (Gable and Ransdell, 1993). The concept of vocational and academic integration has been endorsed by the Office of Education since the mid 1930's (Moss, 1990). Pritz and Davis (1990) emphasized the equal importance of both academic and vocational skills. They identified both types of skills as being essential in the workplace so that workers would be flexible enough to solve problems and keep up with new technology. Capelli (1990) stated that both academic and vocational skills were important for students' success in the job market. According to Tremaine (1992), vocational and academic curriculum must integrate in order to meet students' educational needs and make education more meaningful and relevant.

A major student benefit of vocational and academic integration is that vocational and academic integration enables students to be better prepared for the job market (Capelli, 1990; Oswald, 1986; Pritz and Davis, 1990; Steinauer, 1986). According to Tremaine (1992), problem-solving skills, cooperative learning and teamwork, and job-seeking skills are strongly encouraged in the vocational and academic integrated curriculum. Another benefit of vocational and academic integration is that students learned abstract academic concepts through concrete, real life examples (Parkhurst, 1986; Pritz and Davis, 1990; Rankin, 1993). Steinauer (1986) stated that vocational and academic integration changes student's opinions about the relevance of academic skills to real-life situations. Several authors reported improved student performance on vocational and academic material as a result of vocational and academic integration (Keeley, 1990; Martinez and Badeaux, 1992, 1994; Olds and Lightner, 1995; Newman and Johnson, 1993; Smith, 1986). In addition, students mastered both vocational and academic competencies at the same time, thus creating a more efficient education (Oswald, 1986; Parkhurst, 1986). The Southern Regional Education Board reported increased student achievement on national assessment tests as a result of vocational and academic integration (Miller, 1997). Schools with integrated programs also "report that dropout rates have decreased as motivation, test scores, grades, and self-esteem have increased" (Keeley, 1990, p. 28).

Teachers also benefit from vocational and academic integration. One major teacher benefit is that teachers from two different backgrounds form mutual respect for each other (Bottoms, Presson, and Johnson, 1992; Parkhurst, 1986; Pritz and Davis, 1990). According to Pritz and Davis (1990) and Bottoms, Presson, and Johnson (1992), vocational and academic integration also provided teachers with more material to use for lessons, thus allowing teachers to be more creative. Perhaps the greatest teacher benefit of vocational and academic integration is that teachers learned to cooperate with each other (Bottoms, Presson, and Johnson, 1992; Grosvenor and Thode, 1986; Rankin, 1993; Tremaine, 1992). According to Parkhurst (1986), teachers working in vocational and academic integrated programs gained a better understanding of the educational goals that all teachers share.

Despite the many teacher and student benefits of vocational and academic integration, there are several barriers that hinder the progress of vocational and academic integration. Teachers require more time to develop new curriculum, plan activities, research curriculum integration methods, and work with other staff members on vocational and academic integration (Kentta, 1993). Another major barrier of vocational and academic integration is lack of funding (Grosvenor and Thode, 1986; Pritz and Davis, 1990; Ramsey, 1995). Miller (1997) reported some teachers do not believe that curriculum integration will help the career-bound students who are the primary target for the integrated curriculum. Ramsey (1995) also identified student graduation requirements, performance-based assessments, and college admission requirements as barriers of vocational and academic integration.

Purpose and Objectives

The primary purpose of this study was to determine the current level of vocational and academic integration achieved in North Carolina secondary public school agricultural departments. A secondary purpose was to compare the opinions of agricultural teachers who did and did not receive Southern Regional Education Board grant monies towards vocational and academic integration. Specifically, the following research questions provided a focus for the study:

1. What methods are used to accomplish vocational and academic integration in North Carolina secondary agricultural departments?
2. What are the teacher benefits and student benefits of vocational and academic integration as perceived by agricultural teachers?
3. What are the barriers of vocational and academic integration as perceived by agricultural teachers?
4. Are agricultural teachers who received Southern Regional Education Board grant monies for vocational and academic integration more in favor of vocational and academic integration than agricultural teachers who did not receive the grant monies?

Methodology

This study was descriptive explanatory in nature. Survey research methods were used to collect the data. Data related to the research questions were collected from two populations. The first population consisted of all North Carolina secondary public school agricultural teachers who received Southern Regional Education Board grant monies for vocational and academic integration (N= 32). A current list of North Carolina public secondary schools that received Southern Regional Education Board grant monies for vocational and academic integration was obtained from the North Carolina State Department of Public Instruction. From this list all schools that had agricultural education programs were selected. The agricultural teachers at these schools were identified using the current North Carolina Agricultural Education Directory. All 32 teachers identified were surveyed. The second population consisted of all remaining North Carolina secondary public school agricultural teachers who did not receive Southern Regional Education Board (SREB) grant monies for vocational and academic education stratified by educational region and number of teacher in the program (N=281).

Schools with one- and two- teacher agricultural education programs were selected from each region using a table of random numbers. The number of schools selected from each region was determined by the number of schools with agricultural departments in each region that received Southern Regional Education Board grants. A total of 23 schools employing 32 agricultural teachers were selected to be the matching sample for the population of North Carolina public secondary school agricultural teachers who had not received SREB grant monies for vocational and academic integration.

Based upon a review of the literature an instrument was developed by the researcher to collect data for this study. Some items included in the instrument were adapted from studies conducted by Hartzell (1995), Johnson (1996a & b), Schell and Wicklein (1993), Dormody (1993), and Newman and Johnson (1993). Additional items were developed to address further the research questions of this study. Finally, agricultural teachers were asked to estimate the level of vocational and academic curriculum integration achieved at their school using a scale which ranged from 0-100 %. A panel of experts from the Department of Agricultural and Extension Education at North Carolina State University, the North Carolina State Department of Public Instruction, and the College of Education and Psychology at North Carolina State University established content validity. Twenty teachers were randomly selected for a pilot study from the remaining North Carolina agricultural teachers not used in either sample. Internal consistency, as a measure of the reliability of the attitude scale, was established using Cronbach's Alpha (□ = .94).

Sixty-four North Carolina public secondary school agricultural teachers were mailed questionnaires with an appropriate cover letter and a self-addressed stamped envelope. A follow-up letter was mailed two weeks later to those teachers who had not yet responded. The overall response rate after two mailings was 76.5%. Nonresponse error was controlled by comparing early and late respondents on the mean attitude scores (Miller and Smith, 1983). A t-test was used to examine each group, and the t-values showed the attitude means were not statistically significant (Borg and Gall, 1989).

Data were summarized using measures of central tendency, variance, and frequencies and percentages. The differences between the two groups, agricultural teachers who did and did not receive Southern Regional Education Board grant monies for vocational and academic integration, on research questions number 1 through 5 were measured using a t-test. Alpha levels were set at .05 a priori.

Results

To determine which methods of vocational and academic integration were most used by teachers, several methods of vocational and academic integration were listed (Table 1). Respondents were asked to indicate their use of the vocational and academic integration methods using a four point Likert-type scale with the following choices: 1 = never used; 2 = used very little; 3 = used sometimes; 4 = used many times.

The methods of vocational and academic integration used most by both groups of teachers were those methods that dealt with increasing the level of academic content in agricultural classes. Both groups of teachers used the model 'increasing the amount of science in agricultural classes' more than any other model of vocational and academic integration; 100% of SREB teachers and 91% of non-SREB teachers identified this method of vocational and academic integration as being 'used sometimes' or 'used many times'. Ninety-six percent of SREB teachers and 78% of non-SREB teachers identified 'increasing the amount of math in agricultural classes' as a curriculum integration method that was 'used sometimes' or 'used many times'. 'Increasing the amount of reading and writing activities in agricultural classes' was identified by 88% of SREB teachers and 87% of non-SREB teachers as a curriculum integration method that was often used to integrate vocational and academic education. In addition, 'using or developing curriculum materials that include more academic content within existing agricultural classes' was identified by 79% of SREB teachers and 91% of non-SREB teachers as a method of vocational and academic integration that was 'used sometimes' or 'used many times'. The method of vocational and academic integration least used by both groups was 'shared planning and teaching with an academic teacher'. Seventy-six percent of SREB teachers and 78% of non-SREB teachers identified this method as one that was 'used very little' or 'never used'. The mean score of both groups of teachers for this item was below the 'used very little' level.

Table 1

Means and Standard Deviations for Items Relating to Methods of Vocational and Academic Curriculum Integration

	SREB Teachers			Non-SREB Teachers	
Integration Technique	M	SD		M	SD
Increasing the amount of science in agriculture classes	3.48	0.51		3.61	0.58
Increasing the amount of math in agriculture classes	3.36	0.57		3.22	0.83
Increasing the amount of reading and writing activities in agricultural classes	3.25	0.68		3.30	0.73
Using or developing curriculum materials that include more academic content within existing agricultural classes	3.08	0.72		3.32	0.60
Using experimental methods in developing learning activities for students	2.88	0.67		2.65	0.80
Team teaching with an academic teacher	2.44	0.77		2.04	0.95
Reorganizing curriculum and coordinating with academic teachers so that similar topics are taught concurrently	2.32	0.69		1.74	0.89
Connecting one main topic or theme to all subject areas	2.08	0.91		1.70	0.86
Coordinating with academic teachers to teach higher-level thinking skills at the same time	2.08	0.93		1.70	0.86
Shared planning and teaching with an academic teacher	1.88	0.78		1.70	0.91

Note: 1= never used, 2= used very little, 3= used sometimes, and 4= used many times

To determine which teacher benefits of vocational and academic integration were considered most important by respondents, possible teacher benefits of vocational and academic curriculum integration were listed (Table 2). Respondents were asked to rank the benefits according to importance.

The ranking of the teacher benefits by teachers at schools that received SREB grants for vocational and academic integration and teachers at schools that did not receive SREB grants for vocational and academic integration was almost identical. Both SREB teachers and non-SREB teachers identified 'has instructional relevance' as the most important teacher benefit of vocational and academic integration; 86% of both groups of teachers indicated this teacher benefit was 'moderately important' or 'very important'. Seventy-one percent of SREB teachers and 83% of non-SREB teachers identified 'has more staff communication' as a 'moderately important' to 'very important' teacher benefit of vocational and academic integration. According to both groups of teachers, 'has more curriculum flexibility' was the least important teacher benefit of vocational and academic integration. This benefit was considered 'moderately important' to 'very important' by 62% of SREB teachers and 52% of non-SREB teachers.

Table 2
Mean Scores and Standard Deviations for Teacher Benefits of Vocational and Academic Integration

	SREB Teachers			Non-SREB Teachers	
Teacher Benefits	M	SD		M	SD
Has instructional relevance	3.24	0.70		3.36	0.88
Has more staff communication	3.14	0.85		3.30	0.91
Has more resources	2.90	1.00		3.30	0.86
Stays refreshed on academic skills	2.86	1.06		3.26	1.01
Has more curriculum flexibility	2.71	1.01		2.74	1.03

Note: 1= not important, 2= slightly important, 3= moderately important, and 4= very important when referring to the mean scores.

Table 3
Mean Scores and Standard Deviations for Student Benefits of Vocational and Academic Integration

	SREB Teachers			Non-SREB Teachers	
Student Benefit	M	SD		M	SD
Becomes better prepared for the workforce	3.54	0.66		3.65	0.80
Develops problem-solving skills	3.46	0.66		3.61	0.74
Receives meaningful instruction	3.46	0.66		3.52	0.75
Gains more appreciation for agriculture	3.38	0.58		3.35	0.91
Develops thinking skills	3.38	0.65		3.65	0.73
Basic skills are reinforced	3.33	0.56		3.39	0.92
Becomes a well-rounded person	3.25	0.61		3.39	0.98
Gains more appreciation for academics	3.21	0.66		3.26	0.85
Retains more information	2.88	0.80		3.30	1.01

Note: 1= not important, 2= slightly important, 3= moderately important, and 4= very important.

To determine what agricultural teachers perceived as the most important student benefits of vocational and academic integration, the instrument listed possible student benefits of vocational and academic integration (see Table 3). For non-SREB teachers, all student benefits earned mean scores above the 'moderately important' level. Teachers from SREB schools also rated all student benefits above the 'important' level except one; the 'retains more information' benefit received a mean score slightly below the 'moderately important' level from SREB teachers. Teachers at SREB schools identified 'becomes better prepared for workforce' as the most important student benefit of vocational and academic integration. For teachers at non-SREB schools, 'becomes better prepared for workforce' and 'develops thinking skills' were both identified as the most important student benefits of vocational and academic integration. Ninety-one percent of non-SREB teachers identified 'becomes better prepared for workforce' as a 'moderately important' or 'very important' student benefit, and 96% identified 'develops thinking skills' as a 'moderately important' or 'very important' student benefit of vocational and academic integration. While the ranking of the student benefits differed somewhat between the two teacher groups, the high mean scores indicate that both groups considered the student benefits of vocational and academic integration to be important.

To determine what agricultural teachers considered to be barriers of vocational and academic integration, possible barriers of vocational and academic integration were listed (see Table 4).

Table 4
Mean Scores and Standard Deviations for Barriers of Vocational and Academic Integration

	SREB Teachers			Non-SREB Teachers	
Barrier	M	SD		M	SD
Time	3.65	0.59		3.48	1.02
Lack of funding	3.28	0.85		3.13	1.16
Lack of faculty support	3.24	0.77		3.00	0.97
Lack of equipment and supplies	3.19	0.87		3.43	0.93
Planning	3.14	1.06		3.04	1.05
Lack of space	2.95	1.07		3.04	1.16
Lack of instructional materials	2.90	0.94		3.14	1.09
Curriculum development	2.86	0.85		3.00	0.77
Lack of parental support	2.71	0.96		2.87	1.22
Staff development and training	2.67	1.06		2.91	0.79
Lack of administrative support	2.57	1.08		2.96	1.09
Evaluation	2.55	0.94		2.61	0.91

Note: 1= not important, 2= slightly important, 3= moderately important, and 4= very important.

The ranking of barriers of vocational and academic integration by both teachers at SREB schools and teachers at non-SREB schools was similar in many instances. According to both groups of teachers, the largest barrier of vocational and academic integration was 'time'. This barrier was rated 'moderately important' to 'important' by 95% of SREB teachers and 81% of non-SREB teachers. Eighty-one percent of SREB teachers and 71% of non-SREB teachers rated 'lack of faculty support' as a 'moderately important' or 'very important' barrier of vocational and academic integration. For the 'lack of funding' barrier, 86% of SREB teachers and 70% of non-SREB teachers had rating scores of 'moderately important' to 'very important'. Seventy-one percent of SREB teachers and 83% of non-SREB teachers identified 'lack of equipment/supplies' as a moderately important to very important barrier of vocational and academic integration. 'Planning' was identified by 81% of SREB teachers and 70% of non-SREB teachers as being a moderately important to very important barrier of vocational and academic integration. The least important barrier of vocational and academic integration according to both groups of teachers was 'evaluation'; 42% of SREB teachers and 54% of non-SREB teachers identified evaluation as a moderately important to very important barrier of vocational and academic integration.

To determine the attitudes of agricultural teachers towards vocational and academic integration and whether teachers from SREB schools were more in favor of vocational and academic integration than teachers from non-SREB schools, the questionnaire contained 25 attitude statements concerning vocational and academic integration. Negatively stated items were reverse-coded for data analysis. Table 5 contains mean scores and standard deviations for all attitude statements listed in the attitude section of the questionnaire. Teachers from schools that received SREB grants for vocational and academic integration most strongly agreed with the statement 'vocational and academic integration enhances my agricultural program's image' (M= 3.16). Ninety-six percent of these teachers 'agreed' or 'strongly agreed' with this statement. For the same statement, agricultural teachers from schools that did not receive SREB grants had a mean score of 3.09; and 74% of these teachers indicated that they 'agreed' or 'strongly agreed' with this statement. Teachers from both groups also agreed with the statement 'vocational and academic integrated curricula is challenging to average-ability students'. Ninety-two percent of the teachers from SREB schools and 91 % of the teachers from non-SREB schools agreed or strongly agreed with this statement. Another attitude statement that both teacher groups agreed with was 'vocational and academic integration better prepares students for employment'.

Both teachers from SREB schools and teachers from non-SREB schools disagreed with many of the same attitude statements. Sixty-four percent of the teachers from SREB schools disagreed or strongly disagreed with the statement 'student class participation has increased due to vocational and academic integration'. For the same statement, 57% of the teachers from non-SREB schools had scores that indicated they disagreed or strongly disagreed. Teachers from both groups also disagreed with the statement 'I have adequate equipment and supplies in my department for teaching vocational and academic integrated curricula'. Also, 80% of SREB teachers and 70% of non-SREB teachers indicated that they disagreed or strongly disagreed with the statement 'student enrollment has increased due to vocational and academic integration'.

A mean attitude score was calculated for each group of teachers to determine if the attitudes of each group towards vocational and academic integration differed. The mean attitude score for agricultural teachers from schools which received SREB grants for vocational and academic integration was 2.68 (SD = 0.21). The mean attitude score for agricultural teachers from schools which did not receive SREB grants for vocational and academic integration was 2.69 (SD = 0.28). The resulting t-value of 0.90 was not statistically significant, indicating there was no difference between the two groups of teachers on attitudes towards vocational and academic integration.

To determine what level of vocational and academic integration agricultural teachers were achieving, section six of the questionnaire asked respondents to indicate by a percent number the level of vocational and academic integration achieved in their agricultural departments. Respondents were allowed to choose between 0 and 100%. Teachers from schools that received SREB grants for vocational and academic integration had percentages ranging from 5 to 87.5%. The mean vocational and academic integration level for SREB teachers was 36.25%. Teachers from schools that did not receive SREB grants for vocational and academic integration had percentages ranging from 0 to 90%. The mean score for non-SREB teachers was 39.13%.

Conclusions and Recommendations

Based on the findings of this study, the following conclusions were drawn: Agricultural teachers in North Carolina are using a variety of methods to integrate vocational and academic curriculum in their programs. Infusion of academic content into the existing vocational curriculum is the predominant method of achieving vocational and academic integration. Agricultural teachers perceive that there are benefits of vocational and academic integration. North Carolina public secondary school agricultural teachers considered several teacher benefits from vocational and academic integration important. 'Has instructional relevance' was considered the most important teacher benefit from vocational and academic integration. Agricultural teachers also perceive that students benefit from integration of vocational and academic education. The most significant student benefits from vocational and academic integration according to agricultural teachers were those that dealt with workforce preparation of and higher-level skill development by students. However, they are not as convinced that students retain more information as a result of this approach.

Agricultural teachers feel that there are significant barriers to vocational and academic integration. A majority of the most important barriers dealt with time, and administrative and financial support of this initiative. Receiving a grant for vocational and academic integration does not affect teacher attitudes towards vocational and academic integration or the level of vocational and academic integration achieved. Overall, the level of vocational and academic integration in North Carolina secondary public school agricultural departments is fair. North Carolina secondary public school agricultural teachers are not strongly in favor of vocational and academic integration. The lack of strong teacher support of this educational reform may be related to the many barriers teachers encounter when attempting to integrate vocational and academic curricula.

Table 5

Mean Scores and Standard Deviations for Attitudes Toward Vocational and Academic Integration

	SREB			Non-SREB	
Attitude Statement	M	SD		M	SD
Vocational and academic integration enhances my agricultural program's image	3.16	0.47		3.09	0.74
Vocational and academic integration is adaptable to an ever-changing workforce	3.08	0.50		3.17	0.51
Vocational and academic integrated curricula is challenging to average-ability students	3.04	0.45		3.04	0.45
Vocational and academic integration better prepares students for employment	3.00	0.51		3.00	0.55
Vocational and academic integration does not meet the needs of my students**	2.96	0.64		3.05	0.78
Vocational and academic integrated curricula is challenging to low-ability students	2.96	0.73		2.57	0.87
Student achievement is not really affected by vocational and academic integration**	2.88	0.54		3.05	0.51
Vocational and academic integrated curriculum is an efficient way to teach students	2.88	0.61		2.83	0.51
The vocational and academic integrated program has enabled students to better understand that math, science, and agriculture are highly related	2.84	0.55		2.86	0.75
The vocational and academic integrated program has enabled students to value the worth of math, science, and agriculture in today's society	2.80	0.58		2.76	0.72
At this school, the academic teachers do not want to work with the agriculture teachers on vocational and academic integration**	2.80	0.71		2.86	0.69
Vocational and academic integrated curricula is challenging to high-ability students	2.76	0.66		3.30	0.46
Vocational and academic integration prevents the teaching of important vocational skills**	2.75	0.53		2.91	0.70
The vocational and academic integrated program has enabled myself and math and science teachers to work together as a team	2.64	0.64		2.24	0.89
Students in a vocational and academic integrated program learn more than students in traditional programs	2.62	0.71		2.71	0.66
Vocational and academic integration requires me to incorporate more science material into my agricultural curriculum	2.60	0.58		3.17	0.70
Vocational and academic integration causes me to teach fewer practical skills**	2.56	0.77		2.65	0.86
Vocational and academic integration allows me to be flexible with my curriculum	2.52	0.67		2.52	0.76
I enjoy teaching vocational and academic integrated curriculum more than previous curriculum	2.48	0.65		2.59	0.68
Vocational and academic integration takes too much time**	2.45	0.83		2.81	0.51
Adequate curriculum materials are available for the integration of vocational and academic subjects	2.42	0.65		2.13	0.73
I prefer to teach vocational and academic integrated curriculum instead of the traditional ag curriculum	2.39	0.66		2.43	0.75
Student class participation has increased due to vocational and academic integration	2.26	0.54		2.20	0.71
I have adequate equipment and supplies in my department for teaching integrated curricula	2.16	0.75		1.96	0.71
Student enrollment in my department has increased due to vocational and academic integration	2.04	0.73		2.00	0.86

Note: 1= strongly disagree, 2= disagree, 3= agree, and 4= strongly agree.

** Negative items; these items were reverse coded for data analysis

Based on the findings and conclusions of the study, the following recommendations are offered: North Carolina secondary public school agricultural teachers should be allotted more time to implement vocational and academic integration. This may require additional planning time or a reduction in other expectations related to non-instructional assignments. School administrators must also communicate support for integration of vocational and academic education in tangible ways, including funding for programs, equipment, and supplies. The State Department of Public Instruction and the State Agricultural Education staff should continue to provide guidance on improving the implementation of vocational and academic integration. The expectation for the level of integration of vocational and academic teachers should be clearly communicated to teachers. Teacher workshops should be focused on training teachers to use specific models of vocational and academic integration and reducing time requirements of vocational and academic integration. A study should be conducted to determine which model(s) of vocational and academic integration result in the highest student achievement gains. Results of that study would be used to determine which methods of vocational and academic integration should be emphasized at teacher training workshops.

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NEGOTIATING THE TRANSITION FROM SCHOOL-TO-WORK: CAREER-RELATED CHARACTERISTICS AND POSTSECONDARY ATTAINMENT OF WORK-BOUND YOUTH

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Limited information is available about the unique career development needs and experiences of individuals making the transition to adult life. A national longitudinal database was used to examine precursors to and indicators of initial career attainment of rural and non-rural adolescents in transition. A greater proportion of rural youth were work-bound, while a higher percentage of adolescents in non-rural settings were college-bound. Adolescents in the lowest SES quartile were twice as likely to be work-bound. In contrast, students in the highest quartile were four times more likely to be college-bound. Work-bound rural students were more likely to be in vocational tracks than college-bound peers. Rural youth reported lower aspirations than non-rural peers. Predictive discriminant analysis (PDA) equations resulted in the accurate classification of 80.6% of all college-bound youth. The hit rate for non-rural college-bound youths was higher than for rural peers. Total hit rate for work-bound rural youth was higher than for non-rural counterparts. Socioeconomic status (SES) was the most important variable for predicting the status of work-bound youths. Several other variables were important—vocational education, educational program, mathematics achievement, and residential preferences. A different classification pattern was observed for college-bound rural youths. Here, the most important variable was occupational aspiration. SES and mathematics achievement were also important. The equation for non-rural college-bound individuals resulted in higher accuracy than for rural peers. The most important variable for non-rural college-bound adolescents was aspirations which was least important for non-rural work-bound youth. Classification for non-rural work-bound youth was different and less accurate (only slightly better than chance). SES and vocational education were most important.

Introduction, Theoretical Base, and Related Literature

Despite increasing attention on the transition of adolescents from school to work and adult life, limited information is available about the unique career development needs and experiences associated with making this critical transition (Blustein, Phillips, Jobin-Davis, Finkelberg, & Roarke, 1997; Gysbers, 1997; Herr, 1995). As adolescents move to adult life they encounter fewer available jobs that offer stability and advancement, high unemployment, decreased wages, and limited public assistance with the transition to adult life (Halperin, 1998). Indeed, many youth initiate their transition from school-to-work without a systematic plan of action or help and support from schools or employers, often resulting in a prolonged period of floundering, trial and error, lingering unemployment, and general despair (Herr & Niles, 1997). This bleak prospect has been fueled by a sense that American youth are undereducated, receive limited career guidance, and lack requisite skills needed to enter high-skilled, high-tech work (Herr, 1996; Smith & Rojewski, 1993; Worthington & Juntunen, 1997).

Although more than one-third of all adolescents do not participate in postsecondary education programs immediately upon high school completion, an overwhelming majority aspire to some type of postsecondary education. In fact, almost three-fourths of high school seniors studied by Choy, Alt, and Hencke (1994) reported postsecondary education aspirations—one-half aspired to attend a 4-year college or university. In contrast, only 15% of adolescents indicated plans to go directly to work after they finished high school. Choy et al. found that, as a group, high school seniors who stated work-bound aspirations were more likely to be male, in the lowest two SES quartiles, rural-based, enrolled in a vocational track, and less likely to have a parent with a 4-year college degree.

Work-bound youths in rural areas may be vulnerable to career-related problems as they prepare for and experience the transition from school to employment (Haller & Virkler, 1993; Rojewski, Wicklein, & Schell, 1995). While rural youths experience as much diversity as their non-rural and metropolitan counterparts, several common themes suggest a need for greater focus on the career development of rural adolescents. Problems related to career development and preparation of rural youth include reduced access to and pursuit of postsecondary education, narrowed school curricula, limited exposure to the world of work, and a lack of work-related role models (Apostal & Bilden, 1991). Ultimately, these problems can result in limited educational or employment aspirations and attainment (Hektner, 1995). Rural youth are more likely to experience employment-related problems such as lower personal income and higher rates of unemployment and poverty, spurred by a general lack of economic vitality and the relative scarcity of high-skill, high-wage employment opportunities found in many rural communities (Hobbs, 1994).

As a result of problems with job availability and attainment, rural adolescents have traditionally faced a conflict between the pursuit of educational or career aspirations and the need to move to a metropolitan area to achieve such goals. The dilemma of these competing goals—*aspirations versus residence*—have played a facilitative, albeit constraining, role in career development especially if adolescents lower their aspirations to remain close to home (Hektner, 1995; Helge, 1991; Sarigiani, Wilson, Petersen, & Vicary, 1990). In addition, rural youth are increasingly competing with better-prepared, non-rural peers for high-skill, high-wage jobs based primarily in metropolitan areas (Elder, 1992; Hobbs, 1994).

Purpose of Study

Due, in part, to recent national initiatives like the School to Work Opportunities Act of 1994 and the Carl D. Perkins Vocational-Technical Education Act of 1998, attention has focused on work-bound youth. Even so, there is still a great deal we do not know or understand about individual and systemic processes involved in preparing for and implementing a successful transition (Gysbers, 1997). Given this context, the purpose of this inquiry was to examine select career-related precursors and indicators of initial career attainment of rural and non-rural adolescents in the early stages of the transition from school to work. A profile of career-related characteristics for work-bound rural youth is described—gender, race/ethnicity, socioeconomic status (SES), parents' employment status, academic achievement, high school program, involvement in vocational education, educational and career expectations, views on relocation, work values, part-time work experience, locus of control, self-esteem, career attainment 2-years postsecondary. Elements of this profile were analyzed to determine how the career-related experiences of college-bound and work-bound youth in rural and non-rural areas compare.

Method

Sample

The NELS:88 database (NELS:88-94, 1996) administered by the National Center for Educational Statistics, U.S. Department of Education, was used. NELS:88 represents a national probability sample of over 24,000 adolescents followed at 2-year intervals since 1988. The sample consisted of young adults who responded to questionnaires in Grade 12 and two years after the completion of high school. A weighted data pool of 12,314 student-based cases including 3,754 rural (work-bound, *n*=1,919; college-bound, *n*=1,835) and 8,560 non-rural adolescents (work-bound, *n*=3,544; college-bound, *n*=5,016) was obtained. Participants were located throughout the United States—South (34.2%), Midwest (26.2%), West (20.6%), and Northeast (19.0%).

Variables Conceptualization and Specification

A number of descriptive variables were identified including gender, socioeconomic status (SES), location of residence (rural or non-rural), postsecondary educational and occupational attainment, personality measures (locus of control, self-esteem), academic achievement (reading, mathematics, science), and educational and occupational aspirations. Information about high school education program, involvement in vocational education, part-time work experience, residential preference, and educational and occupational aspirations of participants were also obtained from grade 12 questionnaires. Information on the validity and reliability of measures incorporated into this study was obtained from a number of technical and psychometric reports on the NELS:88 database (e.g., Ingels, Dowd et al., 1994; Ingels, Scott, Rock, Pollack, & Rasinki, 1994; Owings et al., 1994).

Several options were available in determining the transition path of participants, *i.e.*, whether individuals were college-bound or work-bound. One option was to rely on postsecondary plans indicated by adolescents on NELS:88 questionnaires administered during Grade 12 [Do you plan to go on to school right after high school?]. However, intended transition paths were not always a reliable indicator of the actual postsecondary experiences of adolescents. For example, although slightly over three-fourths of all adolescents (*n*=8,659) planned to enroll in some type of postsecondary education or training, only 54.2% were actually enrolled two years after high school completion. Conversely, while 18.1% of respondents intended to go directly to work after high school, a small number (*n*=322) had actually enrolled and participated in postsecondary education immediately after high school. Approximately 5% of adolescents were uncertain about their transition plans in grade 12, although most were categorized as work-bound two years postsecondary.

Given the inconsistent and somewhat unreliable nature of stated postsecondary plans, work-bound/college-bound status was defined by actual labor force status one year after high school. Although eight responses were available to NELS:88 participants to describe post-high school educational or occupational status, responses were grouped into two categories—*college-bound* (enrolled in postsecondary education/primarily a student regardless of employment status), and *work-bound* (either in or out of the work force but not in school/primarily focused on work activities or unemployed regardless of length of employment or past educational involvement). Table 1 provides additional demographic data.

Table 1

Demographic Characteristics of Rural and Non-rural respondents in Grade 12

	Rural adolescents				Non-rural adolescents			
	Work-bound		College-bound		Work-bound		College-bound	
	n	%	*n*	%	*n*	%	*n*	%
Gender								
Male	1,044	(54.5)	871	(45.5)	1,942	(44.8)	2,391	(55.2)
Female	875	(47.6)	964	(52.4)	1,602	(37.9)	2,625	(62.1)
Race/ethnicity								
African American	205	(60.6)	133	(39.4)	622	(51.2)	592	(48.8)
Asian American	21	(36.6)	36	(63.4)	116	(24.5)	358	(75.5)
Hispanic	145	(56.9)	110	(43.1)	560	(55.1)	457	(44.9)
Native American	54	(74.8)	18	(25.2)	31	(54.2)	27	(45.8)
White	1,492	(49.3)	1,538	(50.7)	2,208	(38.2)	3,579	(61.8)
Socioeconomic status								
Quartile 1Clow	763	(74.7)	259	(25.3)	926	(63.6)	529	(26.4)
Quartile 2	623	(57.9)	453	(42.1)	1,047	(55.9)	826	(44.1)
Quartile 3	355	(39.6)	541	(60.4)	968	(41.8)	1,346	(58.2)
Quartile 4Chigh	149	(20.6)	575	(79.4)	502	(18.2)	2,249	(81.8)
	M	SD	*M*	SD	*M*	SD	*M*	SD
Reading achievement	47.95	8.53	53.22	8.28	49.21	8.32	53.89	8.09
Mathematics achievement	47.61	8.37	54.24	7.90	48.86	8.11	54.86	7.95
Science achievement	48.42	8.20	53.68	8.44	49.19	8.37	53.72	8.43
Self-esteem	-.08	.66	.05	.68	-.02	.64	.06	.67
Locus of control	-.06	.60	.16	.60	-.06	.64	.13	.59

Note. Totals may not equal 100.0% due to missing or incomplete data or rounding error.

Data Analysis

Chi-square analysis, planed contrast using one-way analysis of variance (ANOVA), and two-way ANOVA were conducted. Predictive discriminant analysis (PDA) classified the current status of sample members two years after high school based on 11 predictor variables. Categorical variables included race/ethnicity (1=majority, 2=minority), SES (1=lowest quartile, 4=highest quartile), high school program (1=college preparation, 2=general track, 3=vocational track, 4=other), participation in vocational education (1=none, 2=one or more vocational courses, no track, 3=vocational track), part-time work experience (1=no experience, 2=past experience, currently unemployed, 3=currently employed), grade 12 occupational aspirations (1=low prestige, 2=moderate prestige, 3=high prestige), and residential preference (1=no importance, 2=some importance, 3=high importance). Continuous variables included mathematics and science achievement, self-esteem, and locus of control.

Findings

Demographic Data

A greater proportion of rural youth were work-bound. When residence effects were removed, rural males were more likely to be work-bound than rural females. Conversely, over one-half all males and females in non-rural settings were college-bound, although a greater percentage of non-rural females were in college than males. In general, SES had a substantial effect on postsecondary status. Adolescents in the lowest quartile were twice as likely to be work-bound, while students in the highest quartile were four times more likely to be college-bound (see Table 1).

Work-related Characteristics and Preparation

A greater percentage of work-bound rural youths were enrolled in a vocational track than non-rural counterparts. Significant differences existed between college-bound and work-bound youth in the degree of involvement in secondary vocational education. In rural settings, work-bound students were four times more likely to be in a vocational track than college-bound peers. Half of rural college-bound participants had never enrolled in a vocational course or program, compared to one-third of work-bound respondents. Work-bound youths were three times more likely to be in a vocational track than college-bound counterparts. Almost two-thirds of non-rural college-bound students had never enrolled in vocational coursework, compared to one-third of work-bound youths (see Table 2).

Rural youth reported significantly lower occupational aspirations than non-rural peers. This difference remained two years later when occupational aspirations were next reported. College-bound individuals held higher occupational aspirations than work-bound counterparts. Effect size coefficients revealed that differences were of moderate-high magnitude. College-bound youth reported statistically higher educational aspirations than work-bound youth. Rural youth reported significantly lower educational aspirations than non-rural peers (see Table 2).

Predicting Transition Path 2-Years After High School Completion

The PDA equation resulted in the accurate classification of 80.6% of all college-bound youth (see Table 3). The overall hit rate for non-rural college-bound youths was almost 10 percent higher than for rural peers. Total hit rate accuracy for work-bound youth was 61.4%Cprediction accuracy for work-bound rural youth was substantially higher than for non-rural counterparts (72.3% vs. 55.5%).

Rural youth. The PDA equation for rural adolescents allowed fairly accurate classification—about three-fourths of individuals were correctly assigned. While prediction accuracy was slightly higher for college-bound rural youths, rates for all rural youths were comparable. SES was the most important variable in correctly classifying work-bound adolescents. Several other variables were also important—participation in vocational education, type of high school program, mathematics achievement, and stated preferences to stay or relocate after graduation. A slightly different classification rule pattern was observed for college-bound rural youths. The most important variable for determining classification accuracy for this group was occupational aspiration. SES and mathematics achievement were also important for maximizing prediction accuracy but to a lesser degree (see Table 4).

Table 2
Work-Related Characteristics and Preparation of Rural and Non-rural Respondents

	Rural adolescents				Non-rural adolescents			
	Work-bound		College-bound		Work-bound		College-bound	
	n	%	*n*	%	*n*	%	*n*	%
High school program								
College preparation	367	(19.1)	1059	(57.7)	754	(21.3)	2945	(58.7)
General education track	896	(46.7)	567	(30.9)	1601	(45.2)	1450	(28.9)
Vocational track	446	(23.2)	105	(5.7)	623	(17.6)	289	(5.8)
Other educational progs	211	(11.0)	104	(5.7)	566	(16.0)	332	(6.6)
Vocational educ								
No prior involvement	632	(33.5)	925	(50.9)	1315	(38.1)	3062	(62.0)
One + courses, no track	678	(35.9)	702	(38.6)	1081	(31.4)	1334	(27.0)
Vocational track	367	(19.5)	88	(4.8)	485	(14.1)	211	(4.3)
PT work experience								
No work experience	285	(15.0)	223	(12.2)	543	(15.6)	641	(12.9)
Past experience	675	(35.5)	680	(37.2)	1079	(31.1)	1771	(35.6)
Currently employed	941	(49.5)	925	(50.6)	1851	(53.3)	2557	(51.5)
Grade 12 occupational asp								
College degree required	748	(46.6)	1341	(81.8)	1624	(57.8)	3648	(84.0)
HS diploma, some college	635	(39.5)	267	(16.3)	888	(31.6)	573	(13.2)
Less than HS required	224	(13.9)	32	(1.9)	296	(10.5)	120	(2.8)
2-yr PS occupation asp								
College degree required	747	(45.6)	1347	(78.1)	1685	(54.3)	3818	(81.6)
HS diploma, some college	638	(38.9)	333	(19.3)	1077	(34.7)	739	(15.8)
Less than HS required	253	(15.5)	44	(2.6)	340	(10.9)	124	(2.7)
	M	SD	*M*	SD	*M*	SD	*M*	SD
Grade 12 occupational asp	47.52	18.67	60.25	13.49	52.45	17.19	61.24	12.67
2-yr PS occupational asp	46.55	18.51	57.81	15.14	49.58	17.92	59.53	14.10
Educational aspirations	3.79	1.36	5.15	.89	4.23	1.27	5.30	.80
Residential preference	1.82	.76	1.87	.77	1.82	.77	1.70	.73

Note. Totals may not equal 100.0% due to missing or incomplete data or rounding error

Table 3

Internal Classification Results for Predictive Discriminant Analysis

Actual group membership	Predicted group membership			
	Work-bound		College-bound	
Individuals in rural areas[a]				
Work-bound (*n* = 1,919)	1,387	(72.3%)	532	(27.7%)
College-bound (*n* = 1,835)	455	(24.8%)	1,380	(75.2%)
Individuals in non-rural areas[b]				
Work-bound (*n* = 3,544)	1,968	(55.5%)	1,576	(44.5%)
College-bound (*n* = 5,016)	877	(17.5%)	4,139	(82.5%)

Note. Percents reflect row totals and may not equal 100.0% due to missing data or rounding error.

[a] Separate hit rates are given in parentheses. Overall hit rate for rural individuals is 2,767/3,754 = 73.71%.

[b] Separate hit rates are given in parentheses. Overall hit rate for non-rural individuals is 6,107/8,560 = 71.35%.

Table 4

Hit Rates of 11-Predictor Subset Linear Classifications Using Leave-One-Out Method

Predictor variable deleted	Number of hits							Rank based on $Z_{(i)}$ values		
	Work-bound		College-bound		Overall			Work-bound	College-bound	Overall
	n	$Z_{(i)}$	*n*	$Z_{(i)}$	*n*	%	$Z_{(i)}$			
Individuals in rural areas										
Race/ethnicity	1390	19.63	1374	21.33	2764	73.62	28.93	8	5	8.5
SES	1299	15.49	1368	20.99	2667	71.03	25.76	1	5	1.5
HS program	1366	18.58	1379	21.59	2745	73.11	28.31	3	10	4
Vocational educ	1358	18.14	1376	21.42	2734	72.82	27.95	3	5	4
PT work experience	1392	19.72	1376	21.42	2768	73.73	29.07	8	5	8.5
Occupational asp—12	1391	19.72	1263	16.11	2654	70.69	25.34	8	1	1.5
Mathematics ach	1373	18.84	1363	20.82	2736	72.87	28.01	3	5	4
Science ach	1389	9.54	1379	21.59	2768	73.72	29.05	8	10	8.5
Self-esteem	1393	19.80	1378	21.50	2771	73.81	29.16	8	5	8.5
Locus of control	390	19.63	1390	22.02	2780	74.03	29.43	8	10	8.5
Residential preference	1386	19.45	1379	21.51	2765	73.63	28.94	8	5	8.5
Individuals in non-rural areas										
Race/ethnicity	1966	18.84	4145	32.67	6111	71.38	36.40	7.5	5.5	8
SES	1820	13.86	4136	32.53	5956	69.58	33.07	1.5	5.5	1
HS program	1892	16.29	4217	34.84	6109	71.36	36.37	3.5	10.5	8
Vocational educ	1841	14.58	4191	34.12	6032	70.48	34.74	1.5	10.5	3
PT work experience	1971	18.96	4136	32.53	6107	71.35	36.35	7.5	5.5	8
Occupational asp 12	2028	20.90	4014	28.91	6042	70.59	34.94	11	1	3
Mathematics ach	1899	16.53	4144	32.67	6043	70.59	34.94	3.5	5.5	3
Science ach	1956	18.47	4141	32.67	6097	71.23	36.13	7.5	5.5	8
Self-esteem	1966	18.84	4132	32.38	6098	71.24	36.14	7.5	5.5	8
Locus of control	1949	18.23	4142	32.67	6091	71.16	36.00	7.5	5.5	8
Residential preference	1969	18.96	4137	32.53	6106	71.34	36.33	7.5	5.5	8

Discussion and Implications

This analysis offers improved understanding of personal experiences and systemic influences that are likely indicators of work-bound or college-bound status. The differential effects that residence present to the career selection and preparation process are also important factors that need additional study. Both of these issues have the potential for making significant impact on the success of adolescents' transition from school to adult life.

Demographic profiles for work-bound and college-bound adolescents were developed to provide a picture based on rural or non-rural residence. Findings support prior descriptions (e.g., Choy et al., 1994; Herr, 1995) of youth engaged in work and college transition paths, revealing a general profile of adolescents who select one path over another. Regardless of residence, work-bound youth reported greater involvement in vocational education than college-bound peers. However, given the limitations of the PDA analysis, it is not possible to determine whether this situation is a result of proactive decisions by work-bound youths to receive vocational preparation prior to high school completion, limited educational alternatives for adolescents who have either ruled out or cannot successfully complete college preparation curricula, or, as has been suggested by structural sociology (Meyer, 1987) and status attainment theories (Hotchkiss & Borow, 1996), the result of systemic bias. Attention focused on determining whether adolescents participate in vocational programs because of personal reasons and decisions (e.g., academic ability or interests in obtaining vocational skills training) or as a result of systemic (institutional) practices that tend to place economically disadvantaged and less academically able youth in vocational programs appears warranted. Given that disadvantaged adolescents and vocational program participants tend to express lowered aspirations, and presumably limit their postsecondary opportunities to acquire advanced work skills and employment, this issue assumes a critical concern.

The primary focus of this analysis was on accurately classifying rural and non-rural adolescents according to transition status measured two years after high school completion. Prediction accuracy and variable importance were fairly consistent for college-bound and work-bound adolescents, although differing some between rural and non-rural youths. Occupational aspiration was the single best predictor of transition status for individuals identified as college-bound. Occupational aspirations are thought to reflect a combination of background variables, e.g., gender or social class; personal psychological factors, e.g., occupational self-concept; and sociological or environmental influences, e.g., effects of bias and discrimination, social attitudes, cultural expectations, and stereotypes based on social class, gender, or race.

SES was the best predictor for rural work-bound youths, while SES and participation in vocational education were the best predictors of work-bound status for non-rural adolescents. Social class has been recognized as a major influence on adult occupational attainment-status attainment theory provides one possible explanation. The theory suggests that the "social status of one's parents affects the level of school achieved, which in turn affects the occupational level that one achieves. A key issue in the status attainment work has been the relative importance of the indirect flow of effects from parental status through education, as compared to the direct path from parental status to occupational status" (Hotchkiss & Borow, 1996, pp. 285-286).

Dissimilarities between rural and non-rural work-bound youth could reflect several things. Perhaps rural youth share similar experiences that help to shape or identify traditional career paths such as a family business or industry traditionally offering employment to youths upon graduation. More clearly identified work options may exist in rural areas that do not require advanced education as opposed to those in non-rural areas. Finally, the increasingly diverse urban population—high minority concentrations, low socioeconomic status, immigrants and limited English proficient—and accompanying issues, problems, and concerns may serve to confound the influences of making transition-related decisions, not identified in rural residents. Fouad (1997) observed that unique forces operate on urban, inner-city youths, which are then compounded by extensive poverty and racism. "These forces may lead to less planful, less introspective behavior, and may lead youth to be more buffeted by environmental factors" (p. 410).

Practitioners can be cognizant of the potential influence that select personal and systemic experiences, including location of residence, can have in forming and adopting postsecondary transition plans—college or work paths. Longitudinal and sustained career development activities for all adolescents that involve adolescents in their own transition planning seem appropriate. Transition planning efforts might be enhanced if potential problems to achieving postsecondary success, e.g., prematurely diminished occupational aspirations caused by real or perceived barriers, school-wide practice of tracking certain students to vocational or academic tracks are identified and eliminated.

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CONCERNS OF TRADITIONALLY AND ALTERNATIVELY CERTIFIED MARKETING EDUCATION TEACHERS

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Over the past few decades, there has been considerable debate surrounding the use of alternative certification as a method of teacher preparation. The purpose of this study was to compare the concerns of traditionally and alternatively certified marketing education teachers across seven categories--human relations, classroom management and routines, instructional activities and methods, personal concerns, conditions of work, evaluation problems, and professional growth. The results of the study indicate that while there are statistically significant differences between traditionally and alternatively certified marketing education teachers, there may be little practical difference in their concerns. Further, both the traditionally and alternatively certified marketing education teachers in this study reported relatively low levels of concern on most items and for most categories.

There are few topics in education that have generated more discussion over the last few decades than the issue of alternative teacher certification (Baird, 1990; Hawk, Coble, & Swanson, 1985; Jelmberg, 1996; Littleton & Holcomb, 1994; Zumwalt, 1996). In fact as noted by Roth (1986), "One of the most significant issues facing the profession is the recent increased interest in alternative or alternate route programs for entry into the teaching profession." (p. 1) The issue of alternative certification has been at the focus of many educational reform recommendations designed to improve teacher quality and to reduce teacher shortages (Hutton, Lutz, & Williamson, 1990). Indeed, teacher education has been deemed ineffective by many policy makers (Ashton, 1996). While details of the process may vary from state to state, an individual with a baccalaureate degree in a subject area is typically allowed to teach after completing abbreviated sequences of courses or experiences as opposed to completing a traditional undergraduate teacher preparation program (Roth, 1986).

There are numerous arguments supporting the use of alternatively certified teachers (Dial & Stevens, 1993; Hazlett, 1989; Hutton et al., 1990; Zumwalt, 1996). For instance, there are many skilled individuals who did not view teaching as an option during their earlier college years, but now as mature adults would consider teaching if they did not have to complete the course work required of traditional undergraduate teacher preparation programs (Hutton et al., 1990; Hazlett, 1989; Zumwalt, 1996). Further, many of these potential teachers, who are already proficient in their subject matter, have had successful careers in other areas and the way to attract them into the classroom is though alternative certification (Hutton et al., 1990). For these potential new teachers, alternative certification relaxes the entrance requirements and the preparation time needed prior to employment as teachers (Zumwalt, 1996). Another argument supporting alternative certification is the shortage of qualified teachers completing traditional, university developed undergraduate teacher education programs (Dial & Stevens, 1993).

While there are supporters of alternative certification, just as many others have questioned its usefulness for preparing teachers. For instance, Brown, Edington, Spencer, and Tinafero (1989) suggested that research be conducted to compare traditionally and alternatively certified teachers to determine if differences exist. As noted by Powell (1991-1992), "Though reports have emphasized the importance of alternative teacher education tracts, research is limited on pedagogical development over time of preservice teachers in these programs." (p. 17) Further, Erekson and Barr (1985) reported the ". . . need to investigate more fully the effects of alternative credentialed teachers on the school and classroom environment." (p. 19) They further noted "That there is limited research on whether provisionally certified vocational education teachers are as effective in instructing students as their counterparts who complete a teacher education program." (p. 17) In fact, Erekson and Barr posed the question "Are people who enter the field through non-traditional means as qualified as those who follow the traditional teacher preparation program?" (p. 17) Also, as noted by Kennedy (1991), ". . . alternative certification programs are often based on the assumption that teachers already know the subject matter they need, and that they can learn a lot about teaching . . ." (p. 16) Dial and Stevens (1993) stated that "Of the articles published to date, most tend to be opinion/editorial commentaries on whether or not alternatively certified teachers are as qualified and committed as university-certified teachers." (p. 4) Specific to marketing education teachers, Heath-Camp, Camp, and Adams-Casmus (1990) noted that ". . . teachers entering marketing education from such disparate routes bring with them different experiences, assets, and problems." (p. 19)

A number of researchers have explored teacher challenges, concerns, and problems in general (e.g., Arroyo & Sugawara, 1993; Linnell, 1994; Matthews, 1993; Underwood, 1974) while others who have focused their work to included marketing education teachers (e.g., Alexander, Davis, & Underwood, 1997a; Alexander, Ober, Davis, & Underwood, 1997b; Heath & Price, 1987; Price, 1988; Underwood & Davis, 1985; Underwood & Davis, 1987; Wray, 1988; Wray & Davis, 1990). Underwood and Davis (1985) compared the perceived concerns of secondary business and distributive education teachers in Indiana. Heath and Price (1987) examined the problems experienced by first-year Virginia marketing education teachers. Underwood and Davis (1987) investigated the concerns of prospective and experienced business and marketing education teachers. Wray (1988) explored the concerns of Illinois marketing education teacher that originated in the workplace. Price (1988) studied the factors impeding teacher involvement in adult marketing education. Wray and Davis (1990) conducted a comparative study of the perceived challenges facing marketing education teachers in Illinois and Indiana. Alexander et al. (1997a) explored the teaching difficulties of business and marketing educators at the secondary level. The concerns of prospective and experienced secondary business and marketing education teachers were also examined by Alexander et al. (1997b).

A review of the literature revealed numerous descriptions of alternative certification. For instance, Oliver and McKibbin (1985) described alternative certification as "teacher certification that departs significantly from traditional teacher education programs." (p. 21) Specific to this study, an alternatively certified teacher was defined as a marketing education teacher who obtained certification through a route other than a traditional 4-year undergraduate marketing teacher preparation program. This study builds upon and adds to the previous studies of teacher concerns by attempting to determine if significant differences exist between traditionally certified and alternatively certified marketing education teachers. The need to study the concerns of both traditionally and alternatively certified teachers is further magnified considering the number of institutions offering alternative certification in marketing education. Ruhland (1995/1996) conducted a status study of preservice marketing teacher education programs. Of the 41 responding programs in her study, 21(51.2%) reported offering post-baccalaureate marketing education teacher certification. Specifically, the findings of this study may be used to improve both preservice and inservice marketing teacher education by addressing identified areas of concern.

Purpose

The purpose of the study was (a) to determine the level of concern among marketing education teachers in relation to the seven categories: human relations, classroom management and routines, instructional activities and methods, personal concerns, conditions of work, evaluation problems, and professional growth and (b) to determine the relative difference in concerns based on teacher certification method. Specifically, answers to the following questions were sought:

1. What are the five most serious concerns of traditionally and alternatively certified marketing education teachers?
2. Are there differences between traditionally and alternatively certified marketing education teachers within the seven broad categories of concern: human relations, classroom management and routines, instructional activities and methods, personal concerns, conditions of work, evaluation problems, and professional growth.
3. Are there differences between traditionally and alternatively certified marketing education teachers in terms of the 91 individual concerns?

Method

This section describes the procedures used during the study. Discussed are the participants, instrument, and data analysis.

Participants

Study participants consisted of all marketing education teachers (including cooperative education teachers) partaking in one of four regional inservices held throughout the state of Missouri in the fall of 1998. Data were gathered through the use of a teacher concerns survey distributed and collected by the researcher. Participant identifiers were not included on the instrument so all responses were completely anonymous. The 141 surveys distributed during these regional meetings provided data for analysis. While not a probability sample, these 141 respondents represent 70.1% of the 201 marketing education teachers in Missouri during the fall of 1998. Of these 141 participants, 42 (29.8%) were traditionally certified and 99 (70.2%) were alternatively certified.

Instrument

Marketing education teacher concerns was assessed through the use of a teacher concerns survey originally developed by Underwood (1974) and later modified by Underwood and Davis (1985, 1987). The instrument is composed of 91 questions grouped into seven broad categories: human relations, classroom management and routines, instructional activities and methods, personal concerns, conditions of work, evaluation problems, and professional growth. These questions were arranged to form a 91-item, Likert-type scale with five scoring categories. Participant response options were (1) not difficult, (2) slightly difficult, (3) moderately difficult, (4) significantly difficult, and (5) extremely difficult. The instrument was selected for use in this study because of its previous use in studies involving marketing education teachers (e.g., Alexander et al., 1997a; Alexander et al., 1997b; Underwood & Davis, 1985; Underwood & Davis, 1987; Wray, 1988). Further, reliability of the seven categories tested with Cronbach's Alpha were reported to be above 0.70 by Alexander et al. (1997b). Reliability coefficients for the seven categories in the present study were all above 0.85. Participants were also asked to supply data as to the method by which they received their marketing education certification.

Data Analysis

A variety of analytical techniques were used to answer the three research questions. To determine the five most serious concerns of traditionally and alternatively certified marketing education teachers on individual items, means were used. Significant differences between traditionally and alternatively certified teachers on the seven category means were determined using t-tests. Category means were determined by summing the individual item means in each category for each respondent and dividing by the total number of respondents in that category. T-tests were used to determine differences between traditionally and alternatively certified teachers on the individual items of concern. Alpha for all tests of significance was set at .05.

Findings

This section provides a comparison of the concerns of traditionally and alternatively certified marketing education teachers. First, the five most serious concerns of traditionally and alternatively certified marketing education teachers are presented. Second, differences between traditionally and alternatively certified marketing education teachers on the seven categories of concern: human relations, classroom management and routines, instructional activities and methods, personal concerns, conditions of work, evaluation problems, and professional growth are put forward. Lastly, differences between traditionally and alternatively certified marketing education teachers on individual items of concerns are reported.

Five Most Serious Concerns

Question one addressed the five most serious concerns of traditionally and alternatively certified marketing education teachers. As presented in Table 1, the most serious concern of both traditionally and alternatively certified marketing education teachers is demands on time with means of 3.19 and 3.16, respectively. These means represent a moderately difficult level of concern by both groups of marketing education teachers in regards to demands on time. Traditionally certified marketing education teachers also reported a moderately difficult level of concern with the item developing good work and study habits in students with a mean of 3.10.

Table 1
Most Serious Concerns of Traditionally and Alternatively Certified Marketing Education Teachers

Concern	Mean[a]
Traditionally certified marketing education teachers	
1. Demands on time	3.19
2. Developing good work and study habits in students	3.10
3. Interpreting and utilizing standardized achievement and aptitude tests	2.95
4. Opportunities to observe other teachers	2.90
5. Providing remedial activities	2.86
Alternatively certified marketing education teachers	
1. Demands on time	3.16
2. Developing good work and study habits in students	2.89
3. Opportunities to observe other teachers	2.90
4. Having enough school time for planning and preparing	2.70
5. Opportunities to read professional literature	2.63

[a] 1 = not difficult; 5 = extremely difficult

Three items emerged on both lists as top concerns--demands on time, developing good work and study habits in students, and opportunities to observe other teachers. Of the most serious concerns of traditionally certified marketing education teachers, two were from the instructional activities and methods category and one each from the categories evaluation problems, personal concerns, and professional growth. The category distribution of the most serious concerns of alternatively certified marketing education teachers were two from professional growth and one each from conditions of work, instructional activities and methods, and personal concerns. Items from the two other categories, human relations and classroom management and routines, did not emerge in the top five concerns of the two groups of marketing education teachers.

Differences by Category of Concern

The second question sought to determine if there were differences between traditionally and alternatively certified marketing education teachers on the seven categories of concern: human relations, classroom management and routines, instructional activities and methods, personal concerns, conditions of work, evaluation problems, and professional growth. As presented in Table 2, only one significant difference between traditionally and alternatively certified marketing education teachers was revealed. Traditionally certified marketing education teachers reported a significantly higher level of concern with human relations than did alternatively certified marketing education teachers.

Table 2
Differences Between Traditionally and Alternatively Certified Marketing Education Teachers by Categories of Concerns

	Mean^a			
Category	Trad.	Alter.	df	t
Human relations	1.72	1.52	139	1.98*
Classroom management and routines	2.22	2.00	139	1.66
Instructional activities and methods	2.24	2.02	139	1.78
Personal concerns	1.73	1.77	139	-0.39
Conditions of work	1.86	1.92	139	-0.59
Evaluation problems	2.12	2.06	139	0.45
Professional growth	2.27	2.26	139	0.04

^{a}1 = not difficult; 5 = extremely difficult
*significant at alpha = .05

Differences by Individual Concerns

The third question sought to determine if differences existed between traditionally and alternatively certified marketing education teachers on the 91 items composing the concerns survey. The results of the data analysis are presented in Table 3. A review of Table 3 revealed several items in which statistical differences between traditionally and alternatively certified marketing education teachers did occur.

Table 3
Differences Between Traditionally and Alternatively Certified Marketing Education Teachers by Individual Concerns

	Mean^a			
Category and Concerns	Trad.	Alter.	df	t
Human relations				
Establishing good relationships with the principal	1.48	1.38	138	0.70
Establishing good relationships with administrative personnel other than the principal	1.55	1.52	139	0.21
Establishing good relationships with other teachers	1.55	1.34	139	1.55
Establishing good relationships with parents	1.57	1.51	139	0.49
Establishing good relationships with students during school hours	1.62	1.38	139	1.71
Establishing and maintaining proper relationships with students after school hours	1.56	1.52	137	0.24
Establishing good relationships with non-certified personnel	1.21	1.14	139	0.84
Establishing effective communications and working relationships with supervisors	1.69	1.45	139	1.63
Understanding community problems, cultures, and traditions	2.24	1.76	139	2.47*
Understanding expectations of administrators and supervisors	1.98	1.73	139	1.45
Establishing working relationships with guidance personnel	2.56	2.13	124	1.81
Classroom management and routines				
Handling problems of student control and discipline	2.15	1.83	138	1.93
Motivating student interest and response	2.60	2.43	139	0.84

Keeping records and making reports	2.45	2.25	139	1.03
Budgeting class time	2.43	2.20	139	1.14
Determining policies for democratic student control	2.31	2.04	135	1.38
Handling problems of absences and tardiness	2.55	2.24	139	1.47
Dispensing and collecting materials and papers	1.86	1.69	139	1.04
Developing rapport with students	1.67	1.40	139	1.97
Understanding the behavior of pre- and/or early adolescents	1.90	1.91	138	-0.04
Instructional activities and methods				
Formulating instructional objectives	2.33	1.83	139	3.01*
Sequencing instruction	2.26	1.82	139	2.65*
Explaining subject matter	1.81	1.52	139	2.41*
Prescribing instruction	1.79	1.66	137	0.91
Individualizing instruction	2.79	2.46	139	1.50
Providing enrichment activities	2.62	2.31	139	1.66
Providing remedial activities	2.86	2.55	139	1.61
Selecting instructional materials	2.21	1.96	139	1.61
Making appropriate and meaningful assignments	2.33	2.01	138	1.85
Planning and preparing lessons	2.10	1.78	139	2.03*
Stimulating critical thinking	2.79	2.55	139	1.09
Using audio-visual equipment	1.52	1.46	139	0.43
Utilizing instructional materials	1.69	1.63	139	0.46
Using community resources	2.07	2.24	137	-1.01
Leading class and small group discussions	1.79	1.68	139	0.63
Using question-asking techniques	1.98	1.76	139	1.17
Giving students a share in planning objectives and learning activities	2.74	2.57	137	0.87
Developing good work and study habits in students	3.10	2.89	139	0.97
Handling controversial topics	2.38	2.03	139	2.06*
Mastering subject matter	1.57	1.66	139	-0.62
Personal concerns				
Living conditions	1.29	1.34	138	-0.42
Salary	2.14	2.08	138	0.30
Physical health	1.36	1.68	139	-1.92
Personal appearance	1.40	1.44	139	-0.26
Poise and self-confidence	1.40	1.51	138	-0.80
Leisure-time activities	1.88	1.87	139	0.01
Demands on time	3.19	3.16	139	0.12
Accepting school's philosophy and objectives	1.74	1.71	139	0.20
Adjusting to standards of expected teacher conduct	1.50	1.41	139	0.70
Academic freedom	1.36	1.44	139	-0.75
Conditions of work				
Quantity and quality of resources and materials	1.93	2.06	139	-0.76
Quantity and quality of equipment	2.02	2.16	139	-0.67
Building facilities	2.02	2.18	139	-0.76
Class schedule	1.76	1.82	139	-0.33
Student-teacher ratio	1.79	1.92	139	-0.70
Number of different preparations	1.69	1.96	139	-1.34
Appearance of teaching environment	1.86	1.84	139	0.10
Office and work space	2.12	2.15	139	-0.14
Working with the secretarial and paraprofessional staff	1.29	1.44	139	-1.21

Securing supplies	1.67	1.65	139	0.14
Having enough school time for planning and preparing	2.79	2.70	139	0.35
Gaining administrative and supervisory support	1.86	1.90	139	-0.25
Length of class period	1.69	1.68	139	0.02
Teaching assignment commensurate with training	1.55	1.44	138	0.89
Policies for personal business and sick leave	1.43	1.37	139	0.40
Assignment for extra duty	1.79	1.72	137	0.33
Acquiring up-to-date equipment	2.10	2.31	139	-0.96
Having enough equipment for effective instruction	2.10	2.30	139	-0.91
Evaluation problems				
Constructing teacher-made tests	2.48	2.18	139	1.59
Using teacher-made tests to diagnose learning needs of students	2.76	2.48	139	1.31
Grading tests	1.45	1.76	139	-2.10*
Administering tests	1.36	1.42	139	-0.61
Assigning grades	1.43	1.67	139	-1.79
Agreeing with school's grading policies and procedures	1.48	1.60	138	-0.84
Involving students in self-evaluation	2.36	2.46	139	-0.52
Using tests to evaluate effectiveness of teaching materials and instructional materials	2.60	2.23	138	1.82
Interpreting and utilizing standardized achievement and aptitude tests	2.95	2.55	138	1.86
Administering standardized achievement and aptitude tests	2.29	2.21	137	0.38
Evaluating homework	1.83	1.86	139	-0.17
Evaluating affective outcomes of instruction	2.40	2.27	139	0.66
Professional growth				
Opportunities to observe other teachers	2.90	2.89	138	0.03
Opportunities for advanced college work	2.52	2.46	139	0.26
Opportunities for in-service work	2.00	2.04	139	-0.21
Supervisory assistance for improving teaching methods	2.30	2.26	136	0.21
Opportunities for advancement	2.54	2.61	136	-0.29
Opportunities to participate in professional organizations	1.71	1.76	138	-0.23
Availability of professional literature	1.93	1.91	139	0.11
Opportunities to read professional literature	2.55	2.63	139	-0.37
Opportunities to work in curriculum development and improvement	2.26	2.12	139	0.67
Opportunities for democratic decision making on school policies and practices	2.45	2.38	138	0.35
Adequate policies for leaves of absence	1.74	1.81	138	-0.38

[a] 1 = not difficult; 5 = extremely difficult
*significant at alpha = .05

Category one--human relations. In this category, both traditionally and alternatively certified teachers reported the most concern with the item establishing working relationships with guidance personnel with means of 2.56 and 2.13, respectively. Of the 11 items in this category, only one was reported to be significantly different between traditionally and alternatively certified teachers--understanding community problems, cultures, and traditions. With this item, traditionally certified marketing education teachers reported a mean of 2.24 while alternatively certified marketing education teachers reported a mean of 1.76. In this category, both traditionally and alternatively certified marketing education teachers reported not difficult to slightly difficult levels of concern on most items. Specifically, both groups of marketing education teachers reported means of < 2.0 on 9 of the 11 human relation items.

Category two--classroom management and routines. In this category, both traditionally and alternatively certified marketing education teachers reported the most concern with the item motivating student interest and response with means of 2.60 and 2.43, respectively. Of the nine items in this category, none were reported to differ significantly between traditionally and alternatively certified marketing education teachers.

Overall, both traditionally and alternatively certified marketing education teachers reported slightly difficult level of concern on most of the classroom management and routine items. Specifically, both groups of marketing education teachers reported means between 1.5 and 2.5 on seven of the nine in the classroom management and routine items.

Category three--instructional activities and methods. In this category, both traditionally and alternatively certified marketing education teachers reported the most concern with the item developing good work and study habits in students with means of 3.10 and 2.89, respectively. This finding is not surprising since the item developing good work and study habits in students appeared as one of the top five concerns for both traditionally and alternatively certified marketing education teachers in Table 1. Of the 20 items in this category, five were found to differ significantly between traditionally and alternatively certified marketing education teachers: formulating instructional objectives, sequencing instruction, explaining subject matter, planning and preparing lesson plans, and handling controversial topics. For each of these items, traditionally certified teachers reported significantly higher levels of concern than did alternatively certified teachers. In the instructional activities and methods category, traditionally certified marketing education teachers reported slightly difficulty to moderately difficult levels of concern on most items. Specifically, traditionally certified marketing education teachers reported means between 1.5 and 3.0 on 19 of 20 instructional activity and method items. By comparison, alternatively certified marketing education teachers reported not difficult to slightly difficult levels of concern on most items. Specifically, alternatively certified teachers reported means of < 2.5 on 16 of the 20 instructional activity and method items.

Category four--personal concerns. In this category, both traditionally and alternatively certified marketing education teachers reported the most concern with the item demands on time with means of 3.19 and 3.16, respectively. This item also appeared as the top overall concern for both traditionally and alternatively certified marketing education teachers as reported in Table 1. Of the 10 items in this category, none were found to differ significantly between traditionally and alternatively certified marketing education teachers. With the exception of demands on time, both traditionally and alternatively certified marketing education teachers reported a slightly difficult level of concern on most items in this category. Specifically, both groups of marketing education teachers reported means < 2.0 on eight of the remaining nine personal concern items.

Category five--conditions of work. In this category, both traditionally and alternatively certified marketing education teachers reported the most concern with the item having enough school time for planning and preparing with means of 2.79 and 2.70, respectively. Of the 18 items in this category, none were found to differ significantly between traditionally and alternatively certified marketing education teachers. With the exception of having enough time for planning and preparing, both traditionally certified marketing education teachers reported not difficult to slightly difficult levels of concern on most items in this category. Specifically, both groups of marketing education teachers reported means < 2.5 on 17 of the 18 conditions of work items.

Category six--evaluation problems. In this category, both traditionally and alternatively certified marketing education teachers reported the most concern with the item interpreting and utilizing standardized achievement and aptitude tests with means of 2.95 and 2.55, respectively. Of the 12 items in this category, only one, grading tests, was found to differ significantly between traditionally and alternatively certified marketing education teachers. Alternatively certified marketing education teachers reported significantly more concern with grading tests than did traditionally certified marketing education teachers. Overall, both traditionally and alternatively certified marketing education teachers reported not difficult to slightly difficult levels of concern on most items. Specifically, both groups of teachers reported means of < 2.5 on 17 of the 18 evaluation problem items.

Category seven--professional growth. In this category, both traditionally and alternatively certified marketing education teachers reported the most concern with the item opportunities to observe other teachers with means of 2.90 and 2.89, respectively. Of the 11 items in this category, none were found to differ significantly between traditionally and alternatively certified marketing education teachers. Both traditionally and alternatively certified marketing education teachers reported slightly difficult to moderately difficult levels concern on most items in the professional growth category. Specifically, both groups of teachers reported means between 1.5 and 3.0 for all items in the professional growth category.

Conclusions and Discussion

As is the case with most studies, caution should be used when interpreting the result of the current study. It should be noted that the study participants were not a probability sample and thus may not necessarily be representative of all marketing education teachers in Missouri. However, the 141 participants in this study did represent 70.1% of Missouri's 201 marketing education teachers during the fall of 1998. In addition, data were collected anonymously by the researcher. This anonymity during the data collection process may have resulted in more honest participant responses since some questions were of a sensitive nature. Both the high rate of participation and the anonymity of the responses enhance the credibility of this study's findings. The findings of this study relative to the concerns of traditionally and alternatively certified marketing education teachers support the following conclusions.

First, as supported by data in Table 2 and Table 3, neither traditionally nor alternatively certified marketing education teachers report major concerns. A review of the means in Table 2 for the seven factors revealed no category of concern mean greater than 2.26, or a slightly difficult level of concern. Table 3 revealed no items with means in either the significantly difficult or extremely difficulty categories. More specifically, 46 of the item means for both traditionally and alternatively certified marketing education teachers were < 2.0, or a slightly difficult level of concern. These 46 item means of < 2.0 represent about half (50.5%) of the 91 items on the teacher concerns survey.

Second, traditionally and alternatively certified marketing education teachers tend not to differ in their levels of concern. While statistically significant differences between traditionally and alternatively certified marketing education teachers were found on 7 (7.7%) of the 91 items, in terms of the entire survey there was little practical difference. A review of the means in Table 3 revealed that traditionally certified marketing education teachers reported higher mean levels of concern on 64 (70.3%) of the 91 items.

Third, as supported by data in Table 1, both traditionally and alternatively certified marketing education teachers have similar concerns. A review of the five most serious concerns of the two groups of marketing education teachers revealed that three items appeared on the lists of both groups. Among the most significant concerns of both traditionally and alternatively certified marketing education teachers are demands on time, developing good work and study habits in students, and opportunities to observe other teachers. Interestingly, as presented in Table 3, both traditionally and alternatively certified marketing education teachers reported the most concern with the same item in each of the seven categories. Specifically, items of most concern in each category were as follow: human relations--establishing working relationships with guidance personnel; classroom management and routines--motivating student interest and response; instructional activities and methods--developing good work and study habits in students; personal concerns--demands on time; conditions of work--having enough school time for planning and preparing; evaluation problems--using teacher-made tests to diagnose learning needs of students; professional growth--opportunities to observe other teachers.

The findings of this study are generally consistent with the results of previous concern and problem studies that have focused on or have included marketing education teachers. Wray (1988) explored the concerns of Illinois marketing education teachers originating in the workplace. Among the top five concerns of marketing education teachers in the Wray study were opportunities for advancement, opportunities to observe other teachers, opportunities for democratic decision making on school policies and practices, demands on time, and supervisory assistance for improving teaching methods. Only three of the above mentioned items had means greater than 3.0, or a moderately difficult level of concern. This study is consistent with the findings of Wray in that the items demands on time and opportunities to observe other teachers were among the top five concerns and that few items had means greater than 3.0, or a moderately difficult level of concern.

In another study, Underwood and Davis (1985) compared the perceived concerns of beginning and experienced business and distributive education teachers. No significant differences were detected among first-year, second-year, third-year, and experienced business and distributive education teachers on the seven categories of concern--human relations, classroom management and routines, instructional activities and methods, personal concerns, conditions of work, evaluation problems, and professional growth. They reported that the highest five concerns of all business and distributive education teachers were opportunities for advancement, opportunities to observe other teachers, opportunities to participate in democratic decision making on school policies and practice, demands on time, and salary. Among the conclusions put forward by Underwood and Davis was that business and distributive education teachers were more concerned with professional growth and personal concerns and less concerned with classroom and pedagogical issues. The results of this study are consistent with the work of Underwood and Davis in that the category of professional growth had the highest level of concern but inconsistent in that the personal concerns category had one of the lowest mean levels of concern.

Most recently, the concerns of prospective and experienced business and marketing education teachers were examined by Alexander et al. (1997b). In their study, Alexander et al. reported that the items of most concern to prospective business and marketing education teacher were having enough school time for planning and preparing, acquiring up-to-date equipment, handling controversial subjects, having enough equipment for effective instruction, and handling problems of student control and discipline. By comparison, the items of most concern to experienced teachers were opportunities to observe other teachers, opportunities for advancement, demands on time, having enough school time for planning and preparing, and developing good work and study habits in students. Alexander et al. concluded that neither prospective nor experienced teachers have crucial concerns about teaching. Further, both prospective and experienced teachers are concerned with demands on time, experienced teachers had more serious concerns than did prospective teachers, and prospective and experienced teachers have different concerns. The results of the current study are consistent with the Alexander et al. study in that both traditionally and alternatively certified marketing education teachers do not experience major levels of concern with most aspects of their jobs. Further, items of most concern in the Alexander et al. study were also among the items of most concern in the current study.

Implications

Given the above discussion, the following comments for practice are offered. The finding that there are significant differences between traditionally and alternatively certified marketing education teachers may be of little practical consequence due to the relatively low level of concern expressed by both groups on most items of the teacher concerns survey. What is important is that both traditionally and alternatively certified marketing education teachers report relatively low levels of concern with most of the items. The realization that marketing education teachers as a whole share the same low levels of concern has very positive consequences for the schools and the state in which they teach. Marketing education teachers expressing low levels of concern lend stability to the schools through greater commitment, thus creating an environment more conducive to student learning.

While generally low levels of concern were reported for most items on the teacher concerns survey, it may behoove state department of education personnel and marketing teacher educators to address the items of most concern in either preservice or inservice marketing teacher education. For example, the top concern of both traditionally and alternatively certified marketing education teachers in the current study was demands on time. Perhaps a unit on time management for teachers conducted as part of a preservice methods course would be useful in helping marketing education teachers better manage the time that they do have. Further, developing good work and study habits in students was the second highest concerns of both groups of teachers in this study. Including a section on student motivation and study skills development may be appropriate for a regional inservice activity. Regardless of the concern or strategy, state department of education personnel and marketing teacher educators need to address the areas of most concern as identified by teachers.

Clearly, an understanding of the concerns of traditionally and alternatively certified marketing education teachers is extremely important to both state department of education personnel and teacher educators. Keeping abreast of the concerns of both traditionally and alternatively certified marketing education teachers within the various aspects of their jobs will enable state department of education personnel and marketing teacher educators to guard against potential problems or to rectify those that already exist through redesigned preservice and inservice education.

Recommendations for Further Research

Based on the review of the literature and the analysis of the data, the following recommendations for further research are offered:

1. A replication of this study should be conducted at regularly scheduled intervals to determine if the concerns of traditionally and alternatively certified marketing education teachers change over time. By keeping a pulse on the changes that occur over time, both state department of education personnel and marketing teacher educators could address problems and areas of concern through preservice and inservice education.
2. A study should be conducted that examines traditionally and alternatively certified marketing education teachers in regard to specific program expectations or standards. All the studies conducted to date have been of generic teacher related concerns. A study of program specific expectations or standards would identify areas of concern that should be addressed by state department of education personnel and marketing teacher educators in both preservice and inservice education.
3. A longitudinal study should be conducted that compares the concerns of beginning and experienced teachers who were traditionally and alternatively certified. A study of this type would reveal if concerns of traditionally and alternatively certified marketing education teachers increase or decrease with experience.

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INITIATIVES THAT ASSIST AND BARRIERS THAT HINDER THE SUCCESSFUL TRANSITION OF MINORITY YOUTH INTO THE WORKPLACE

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The purpose of this study was to identify the initiatives that assist and barriers that hinder the successful transition of minority youth into the workplace. The major method of this research study was in-depth, open-ended telephone interviews with a panel of 21 school-to-work partnership directors located throughout the United States. Revealed are the school, workplace, societal, and individual related barriers that minority youth encounter in making the transition form school to the workplace. The study disclosed that some of the most likely barriers that affect the school-to-work transition of minority youth include: poverty; school personnel resistance to change; the lack of understanding concerning different cultures; and discrimination. Also revealed were the initiatives that are the most likely to remove these barriers and can assist and support the successful transition of minority youth into the workplace. Presented are also the goals that should be advocated for minority youth that are making the transition into the workplace. The criteria for determining sensitive work-based learning sites and/or companies that assist in the successful transition of minority youth into the workplace are also disclosed. Being knowledgeable about the barriers that hinder the school-to-work transition of minority youth may assist school personnel in revising their curricula and developing educational activities that will assist minority youth in overcoming their barriers. The information may also assist employers in developing strategies, initiatives, and policies that address the barriers that hinder the transition of minority youth into the workplace. The information from the study can additionally be used by minority youth to better understand the situation they are facing and can help them make informed decisions about their future.

Introduction

The demographic composition of our society is undergoing a historic transition from a predominately white society rooted in Western culture to a global society composed of diverse racial and ethnic minorities (O'Hare, 1993; Triandis, Kurowski, & Gelfand, 1994). According to the U.S. Bureau of the Census (1996) projections, by the 21st century today's racial and ethnic minorities who now comprise about twenty-five percent of the U.S. population will comprise nearly one-half of all Americans. In the next century, African Americans, Asians, and Latinos will out number whites in the U.S.

In addition, the rapid growth in the number of minorities has been marked by an increasing diversity in terms of language differences, cultural beliefs, and other practices within these population groups as new immigrant groups from the 1980s (e.g., Vietnamese, Cambodians, Dominicans, Nicaraguans) have joined earlier immigrant groups of Mexican Americans, Cuban Americans, Chinese Americans, and Japanese. Also, by 2010, Hispanics are expected to supplant African Americans as the nation's largest minority group (O'Hare, 1993).

An increasing number of youth in the 16 to 24 years old group will be entering the job market by the end of the 1990s. These youth are likely to be more ethnically diverse than the workers in today's workforce (Finney, 1989; Judy & D'Amico, 1998; Triandis & Bhawuk, 1994). African-Americans' and Hispanics' birth rate is four times and seven times that of White Americans respectively. Therefore, as a proportion of the youth population, African-Americans will increase from 13.7 in 1980 to 18.5 by the year 2000. Hispanics are expected to constitute 12 to 15 percent of all youth by the year 2000. This increase in their numbers will require business organizations to hire more from the African-American and Hispanic populations (Triandis & Bhawuk, 1994). According to Hamilton (1990), "the great challenge facing the nation is to prepare a changing population of young people to do new kinds of work. Failure imperils economic health, social progress, and democracy itself" (p. 1). As our nation's economic conditions get better, the demands for workers will increase and employers will also have to turn increasingly to young people otherwise suffer from a serious labor shortage.

Racial and linguistic bias continues to stifle employment opportunities for young minority youth. Minority youth includes American Indian or Alaskan native; Asian or Pacific Islander; Black, not of Hispanic origin; Hispanic and other racial minorities between the ages of 16 - 24 years (Hill & Nixon, 1984). Schools have not fully developed, nor have workplaces fully utilized the talents of minority youth (Hamilton, 1990; Triandis & Bhawuk, 1994). Minority youth have a greater probability of being poor, living in poverty, or otherwise disadvantaged. An increasing numbers of young people are diverging from the white middle-class pattern. Educational institutions and workplaces must adapt to changes in the youth population. Education and workplace training that are typically effective with advantaged youth will not necessarily enable disadvantaged youth to reach their full potential (Bloomfield, 1989; Hamilton, 1990; Ihlanfeldt & Sjoquist, 1993).

Kantor and Brenzel (1992), relate that after two and half decades of federal, state and local efforts to improve urban education for low-income and minority children, achievement in inner-city schools continue to lag behind national norms and dropout rates in inner-city high schools especially among African Americans and Hispanic youth remain distressingly high. At the same time many of those who do graduate are often poorly prepared and they cannot compete successfully in the labor market. Business-Higher Education Forum, (1990) underlines the joblessness issue for Blacks and Hispanics by saying that in any given month, Hispanic unemployment is about 50% higher than the rate of Whites, and black unemployment is 2.5 times higher than that of Hispanics.

The unemployment struggle that minority youth face has an overpowering effect on America. Prior unemployment gives a high risk of unemployment later (Andress, 1989; Hammer, 1996). In addition, it poses huge financial and societal challenges to the competitive advantage of America. Responding to the poor school to work transition for minority youths is an expensive undertaking in itself. With more than 20 percent of high school students dropping out and with a drop out rate of 50 percent in the cities, more than a third of America's front-line labor force is at stake (Sarkees-Wircenski and Wircenski, 1994). Minority youth that are in the transition from school-to-work face a variety of problems and barriers, but typically receive very little help in making the transition from school to the workplace. This neglect results in economic hardships, reduced productivity for industry and a dreadful waste of human potential (West & Penkowsky, 1994). Being proactive in response is important if America is to retain its competitive edge. Overlooking the minority youth population is forgetting that America's strength depends heavily on the use and productivity of all human resources (Glover & Marshall, 1993). To assure that the larger more diverse youth of the 2000s are prepared to do the work of the new decade and new century, their transition into the workplace must be made smoother and more efficient.

Purpose of the Study

The purpose of this study was to identify the initiatives that assist and barriers that hinder the successful transition of minority youth into the workplace. Initiatives for the purpose of this study are specific activities, programs, policies and any other formal and informal process or effort designed to facilitate the successful transition of minority youth into the workplace. This study examined the following major research questions: What are the barriers that are likely to affect the successful transition of minority youth into the workplace? What are initiatives that are most likely to address these barriers, and assist and support the successful transition of minority youth into the workplace? What goals should be advocated for minority youth who are making the transition into the workplace? What are the criteria for determining sensitive work-based learning sites and/or companies that assist in the successful transition of minority youth into the workplace?

Overview of the Research Methods and Procedures

This was a descriptive and exploratory study. The major method of data collection was in-depth, open-ended telephone interviews with a panel of 21 school-to-work partnership directors from 16 states across the United States. These school-to-work partnership programs receive direct federally funded Urban/Rural Opportunities Grants (UROGs) from the U. S. Department of Education, National School-to-Work Office. An interview guide was developed to obtain detailed information in order to produce an in-depth understanding of initiatives that assist and barriers that hinder the successful transition of minority youth into the workplace. The data provided by the participants consisted of words in the form of rich verbal descriptions (qualitative data), as well as quantitative data. The qualitative data was utilized to provide the essential research evidence, while the quantitative data was used to form frequencies and percentages to support the qualitative data.

The population for this study was composed of 86 school-to-work partnership programs in the United States listed in the report, School-to-Work Grantee List, (U.S. Department of Education, 1998). From those 86 school-to-work partnership programs; the 21 direct federally funded Urban/Rural Opportunities grants (UROGs) school-to-work partnership programs were selected as the sample to participate in the study. The 21 school-to-work partnerships were located in 16 states. The States of Minnesota, South Dakota, Utah, Washington, Michigan, Maryland, Ohio, Illinois, Alabama, Miami, New York, and Idaho each had one partnership. California, Oklahoma and Oregon each had two partnerships. The State of Texas had three partnerships.

The data from the interviews were content-analyzed. Content analysis is a research technique for systematically examining the content of communications--in this instance, the interview data. Participants' responses to interview guide questions and the related issues that arise during the interview process were read and put together as complete quotations and filed according to the topic or issue addressed. The content analysis of the interview data was completed both manually and with computer assistance. Responses were analyzed thematically. Emergent themes were ranked by their frequency of mention and were ultimately categorized. Essentially, the study used a qualitative approach to analyze the responses. A quantitative method in the form of frequencies and percentages supported the qualitative data.

Results

The results of this study are summarized in four sections which parallel the research questions: (a) barriers that hinders the successful transition of minority youth into the workplace, (b) initiatives that assist in the successful transition of minority youth into the workplace, (c) goals advocated for minority youth who are making the transition into the workplace, and (c) criteria for determining sensitive workplaces.

Barriers that Hinders the Successful Transition of Minority Youth into the Workplace

The study participants were asked to identify the barriers that are most likely to affect the successful transition of minority youth into the workplace. The five barriers most frequently identified by the study participants included: (a) Poverty,18 (86%); (b) school personnel resistance to change, 17 (81%); (c) lack of understanding concerning different cultures, 15 (71%); (d) lack of integrated/relevant school curriculum, 13 (62); and (e) lack of communication between businesses and schools, 12 (57%).

Poverty (86%) was the most frequently mentioned barrier. A large percentage of minority youths live in poverty, which interferes with the ability to acquire educational credentials and work attitudes and behaviors required to succeed in the workplace. According to the study participants, poverty impacts minority youth in powerful ways. They felt that problem behavior is generally associated with poverty or discrimination. The effects of poverty are so debilitating that the many hardships students experience at school and in the workplace can be attributed to the poor conditions in which they live.

School personnel resistance to change(81%) was another barrier that was frequently identified by the study participants. Study participants felt that the resistance to change by school personnel prevents the implementation and management of change within the school from taking place proactively, efficiently and effectively. Lack of vision and willingness to change among school personnel has stifled the transition of minority youth into the workplace. According to participants, teachers are not willing and/or capable to utilize the teaching designs that are most appropriate for accommodating students with diverse learning styles.

In addition, participants indicated lack of understanding about different cultures by school personnel as a barrier. Participants felt it was essential that school personnel be cognizance of the different cultures of their student population if there is to be a ripple effect of productive behaviors and outcomes. To facilitate success for minority students, school personnel need to become versed on language and cultural issues that these students are facing. A lack of awareness by school personnel of existing cultures has brought about a clash of value systems. A clash of values is more prone to occur when teachers do not mirror the student population.

Study participants also frequently identified lack of integrated and/or relevant curriculum (71%) as a barrier. Segregation between the academic and vocational curricula has triggered the tracking notion. According to the study participants, there are many teachers in schools who still advocate two different curricula with two different tracks. Segregation of vocational and academic education in the schools hinders the advancement of minority students, since they are usually the ones who are selected or placed in the prevocational curriculums and the lowest academic tracks. Generally, these types of curriculums do not prepare minority youth to be successful in the workplace.

Lack of communication between businesses and schools (57%) was also frequently cited as a barrier by the study participants. Participants felt that many schools are unaware of what businesses are expecting or demanding. The two sectors do not communicate and this lack of communication results in false assumptions. The schools blame the businesses for lack of cooperation and the businesses blame the schools for not preparing students well for the world of work.

Initiatives that Assist Minority Youths' Transition into the Workplace

The study participants were asked to identify the initiatives that are most likely to assist and support the successful transition of minority youth into the workplace. The five initiatives most frequently mentioned by the school-to-work directors included: (a) Provide work-based learning, 21 (100%); (b) design and implement an integrated and relevant curriculum, 21 (100%); (c) provide mentoring for minority youth, 14 (67%); (d) provide career exploration and guidance for minority youth, 12 (57%); and (e) develop and implement organizational policies that mandate fairness and equity for all employees, 11 (52%).

All of the study participants identified work-based learning as an initiative that can assist and support the successful transition of minority youth into the workplace. According to the study participants, work-based learning is a planned program of on-the-job education and supervised work experiences. They indicated that work-based learning gives relevance, meaning and leverage to classroom learning and serves as an initiation into the world of work. Work-based learning may include such activities as job shadowing, internships, guided business tours, and apprenticeships. Through work-based learning minority youth can better understand, apply and make connections between what is taking place in school and the workplace.

Design and implement an integrated and relevant school curriculum was also mentioned by all the study participants as an important initiative for assisting and supporting the successful transition of minority youth into the workplace. An integrated and relevant curriculum enables minority youths to connect classroom learning with activities in the workplace, as well as other settings. An integrated and relevant curriculum also allows minority youths to see how knowledge from different subject areas can be applied. Study participants indicated that what minority students learn in the classroom needs to be better connected to the workplace.

Over half (67%) of the study participants identified mentoring as an initiative that assists and supports in the school-to-work transition of minority youths. Mentoring was mentioned as an important approach schools can take to change the attitudes of youths toward school and work. These mentors could be teachers, counselors, or other adults from the community who work closely with the schools. These adult mentors can provide minority youth with important guidance, support and encouragement. According to study participants the exposure that mentoring offers minority youth goes beyond that of school and work-related advice, but has the power to positively impact their motivation, self-esteem and self-confidence, which is much needed for their development.

The study participants frequently reported providing career exploration and guidance (57%) as an initiative that assists and supports in the school-to-work transition of minority youths. Effective career exploration and guidance programs help minority youths explore careers so that they can set realistic goals for the future and establish plans to achieve them. It is essential that minority youths have opportunities for career exploration and a broad perspective on the many career options. In many cases, minority youth do not have the proper guidance to determine their career options and how to effectively pursue them.

Development of organizational policies that mandate fairness and equity for all employees (52%) was another initiative that was frequently mentioned by the study participants. They felt that revising organizational policies and procedures so that they support diverse needs is an essential initiative for assisting and supporting the successful transition of minority youth into the workplace. The study participants emphasized that companies need to change their organizational cultures and develop new policies and systems to accommodate for the changes taking place in the workplace.

Goals Advocated for Minority Youth

The school-to-work directors were asked to identify the goals that should be advocated for minority youth who are making the transition into the workplace. The following five goals were most frequently mentioned by the study participants: (a) Obtain a good education, 17 (81%); (b) get work experience, 15 (71%); (c) develop a career plan, 14 (67%); (d) take responsibility for your success, 13 (62%); and (e) learn to be an effective team member, 11 (52%).

Obtain a good education (81%) was the goal most frequently mentioned by the study participants that should be advocated for minority youth who are making the transition into the workplace. They felt that technological changes, continuing shifts from manufacturing to service industries, and many jobs now demand high levels of technical knowledge and skill make it a necessity for minority youth to obtain a good education. The study participants believed that a good education would help minority youth improve their prospects in the workplace and equip them with the skills needed to compete more effectively in the job market.

Seventy-one percent of the study participants identified work experience as a goal that should be advocated minority youths. Study participants indicated that work experience offers minority youths the exposure to different jobs and serves as a knowledge base from which they can start to make informed decisions about furthering their education or choosing a career. Study participants stated that work experiences might encourage minority youths to remain in school, which may decrease dropout rates. Work experience may also stimulate pursuance of post-secondary school training and education through the military, community college, technical school, or university.

Develop a career plan (67%) was another goal that was frequently mentioned by the study participants. They indicated that it is extremely important for minority youth to understand their career options and what is needed to pursue them. They suggested that minority youth periodically meet with a teacher, school counselor, parent, relative or some other individual who is knowledgeable and willing to discuss job and career options.

Take responsibility for your success (62%) was another goal that was frequently mentioned by the study participants. They indicated that minority youth should establish high performance standard for themselves in school and at work and be responsible for meeting those standards. Study participants stated that minority youths need to be actively involved and should make the effort to learn about what programs are available to them in the school, workplace, and community. Minority youths need to have high expectations of themselves and take advantage of all resources and opportunities that are available to them.

Learn to be an effective team member (52%) was another goal that was frequently mentioned by the study participants. They indicated that teamwork should be a concept that is purported in the school and in the workplace. School personnel need to realize that having the ability to work as a team member is a marketable skill in the workplace, and that minority youths need to acquire a level of expertise in this area.

Criteria for Determining Sensitive Workplaces

Lastly, the study participants were asked to identify the criteria for determining sensitive workplaces. The criteria most frequently mentioned by the school-to-work directors included: (a) Successful in recruiting, hiring and retaining minority employees, 16 (76%); (b) minority employees are represented at all levels of the company, 14 (67%); (c) absence of discrimination lawsuits, 13 (62%); (d) use a combination of initiatives to address diversity, 12 (57%); and (e) has a corporate culture that respects and values differences, 11 (52%).

Successful in recruiting, hiring and retaining minority employees (76%) was the criteria most frequently mentioned by the study participants related to determining sensitive workplaces. They indicated that recruiting, hiring and retaining minority employees is one of the most visible means of determining a sensitive workplace that is likely to assist and support the successful school-to-work transition of minority youths. According to the study participants, recruitment practices need to be used to attract qualified minority job candidates for all levels of the organization.

Minority employees are represented at all levels of the organization (67%) was another criterion that was frequently mentioned by the study participants. They stated that minority employees should be fully integrated into all levels of the organization including middle and upper level management positions. It is motivating for minority youth when they know that minority employees are promoted and hold high-level positions in an organization. Companies with minorities in high level position are more willing to show minority youths all aspects of the business and not only the entry level positions.

Absence of discrimination lawsuits (62%) was another criterion that was frequently mentioned by the study participants. According to the study participants the number of discrimination lawsuits filed, including the number lost by the company, maybe a useful measure of how effective the company values and manages diversity. A closer, examination of those lawsuits to determine where they originated, and the nature of the complaint, may reveal the kinds of problems being solved or not solved in a company and whether the work environment is likely to assist and support the successful transition of minority youth into the workplace.

Utilizes a combination of initiatives to address diversity (57%) was also a criteria that was frequently mentioned by the study participants. According to the study participants, companies that utilize a combination of diversity initiatives to address the employees' needs, and strategically uses these initiatives as part of their organization systems and processes are more likely to be sensitive to the school-to-work transition issues of minority youth.

Presence of a corporate culture that respects and values differences (52%) was another criteria that was frequently mentioned by the study participants. According to the study participants a corporate culture that respects and values diversity is one that provides a better work environment for all employees regardless of their sex or ethnicity. This type of corporate culture involves increasing the consciousness and appreciation of differences associated with the heritage, characteristics, and values of many different groups, as well as respecting the uniqueness of each individual. Overall, the study participants indicated that companies that have work environments that respect and value differences are more likely to support and assist in the successful transition of minority youth into the workplace.

Discussion

This study revealed the barriers are most likely to affect the successful transition of minority youth into the workplace. The results of this study seem to indicate that minority youths' ability to succeed academically and in the workplace may be highly dependent on school personnel, employers, society, and minority youth themselves addressing these existing barriers. The study also showed that a systemic approach to counteracting these barriers is critical because the barriers are interrelated but sometimes invisible and because of this nature, they may go undetected.

Poverty, was the barrier most frequently cited by the study participants. Poverty seeps into and debilitates every aspect of a minority youth's life and only the conscious observer is able to detect its presence and its effect. Poverty affects the whole individual including their attitudes, behaviors, self-esteem, motivation, achievement, values, language skills, interpersonal skills, job accessibility, job networks, and expectations. School personnel, employers and the society at large sometimes see this barrier at the surface level, this superficiality perpetuates stereotype reinforcement, which leads to generalizations about minority youth. Lynch (1993) reported that employers are more likely to train workers who seem trainable, and highly motivated individuals. The words "seem trainable and highly motivated" are descriptors that could instantly remove poverty stricken minority youth from the training list. It is imperative that school personnel, employers and society at large recognize the impact poverty has on the lives of minority youth. School personnel and employers need to be cognizant of youths' backgrounds and use that knowledge to best support rather than label them. Without this recognition, minority youth will continue to be viewed inapt, and be deprived of opportunities for development.

School personnel resistance to change, was the second most frequently mentioned barrier. Resistance to change constrains the effective planning, implementation and accountability phases of the school-to-work initiative. Resistance to change by school personnel disconnects the school-to-work initiative from its core principles and mission. School personnel fail to see that school-to-work is a system intervention, and not merely a program or another additional task that has been added to their responsibilities. Brown (1998) also identified teacher's resistance to change as a barrier for successful school-to-work transition. Teachers may be fearful of change and reluctant to devote time and effort required to learn and incorporate new ways of teaching and learning into their instruction, curriculum and classroom management. What the results of this may also indicate however, is that reluctance to change can be the result of lack of appropriate training in implementing and managing change and workplace learning. Dean (1997) concluded that resources must be provided to support a desired change. In essence, what may be needed are school administrators who are supportive and committed to the school-to-work transition of minority youth and are willing to provide school personnel with the professional development, materials, and supportive and aligned systems and structures that are required for effective change.

Lack of understanding of different cultures was also frequently cited as barrier. This barrier has affected the integration and adaptation of minority youth to schools, workplace and the community learning environments. Minority youths need to feel valued in their learning environments for this to happen, school personnel, employers and community members need to think and act strategically when working with different cultures because culture is unavoidable, powerful and cannot be ignored. Yogan (1994) in her study on the use of African-American culture, reported that cultural congruence between teacher and student is invaluable for student learning. She added that students who are educated in schools that use the students' home culture to influence the atmosphere of the classroom, learning assignments, interactions, and discipline processes perform better and report more satisfaction than students who are educated in classrooms that are culturally incongruent. Yogan captured the effect that is absent when there is a lack of understanding of different cultures. Likewise, Romo (1997) emphasized that school must work to prevent racial and ethnic clashes in order to focus on academics. "Recognizing common values (all students want to feel that they belong) and differential power (some groups "belong" more that others) is essential in order to maintain stability and positive relationships in multiethnic classrooms" (p. 2).

Furthermore, this study revealed the initiatives that are most likely to assist and support the successful transition of minority youth into the workplace. The results of this study seem to indicate that minority youths' ability to succeed academically and in the workplace is contingent upon the types and quality of initiatives that both the school and the workplace undertake. The study showed that successful initiatives are usually collaborative in nature, they have some type of work-based input, are systemic and strategic in both planning and implementation. Work-based learning and an integrated and relevant school curriculum were initiatives that were mentioned by all participants.

The results of this study also indicated that minority youth must take responsibility for enhancing their successful transition into the workplace by obtaining a good education, getting work experience, developing a career plan, and learning to be an effective team member. A primary aim should then be to provide minority youth with incentives to stay in school and perform well academically. A powerful motivation is to connect performance and achievement in school with rewards in the labor market. Minority youth must know that achievement in school pays off unmistakably in terms of economic opportunity (Bloomfield, 1989; Glover & Marshall, 1993; Hamilton, 1990; Kronick, 1991). In addition, learning is a joint enterprise involving teachers and students. While good teaching can facilitate learning, it is ultimately the responsibility of the minority student to learn. Learning cannot occur without minority students' taking action. Motivation is a key to effective learning (Glover & Marshall, 1993; Hamilton, 1990; Rosenbaum, 1990). It is essential that minority youth learn how to learn in order to constantly upgrade and improve their skills to match the needs of the workplace.

Determining the specific barriers that affect the successful transition of minority youth into the workplace is one of the first steps in developing strategies and initiatives that remove these barriers and assist and support the successful transition of minority youth into the workplace. Barriers that prevent minority youth from successfully transitioning into workplace prevent schools, organizations, and communities from developing the future workforce--their competitive advantage. The initiatives and other factors identified in this study can help provide needed skills for minority youth, as well as combat against discriminatory practices. According to the study participants the initiatives that they identified can improve the employment prospects of minority youth who are making the transition into the workplace and provide them with better opportunities for advancement. Initiatives that provide awareness and knowledge about school and work, promote skill development, and which enhance interpersonal relationships among all individuals involved are invaluable. It is important to recognize the systemic, strategic relationships that exist among all initiatives in their efforts to foster the successful transition of minority youths into the workplace.

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EMPLOYABILITY SKILLS REQUIRED FOR THE 21ST CENTURY JAMAICAN WORKFORCE: IMPLICATIONS FOR EDUCATION AND TRAINING

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In order to gain competitiveness, employees in developing countries such as Jamaica must be educated and trained to adapt to rapid technological and social changes characteristics of the 21st Century. Skills and tasks previously considered necessary are being re-engineered to gain compatibility with the changing demands of the modern economy. The study was conducted to expand the knowledge base of the relationship among education, training, work, and economic development. The study specifically sought to determine employers' requirement of the Jamaican workforce and to further determine the extent to which education and training institutions were preparing students for work. The United States SCANS study served as a model for developing an instrument that was administered to a sample of Jamaican employers. Employers confirmed that among their requirements for a skilled workforce were academic (basic), technology, resources and information, teamwork, communication, critical thinking and problem-solving, and personal management. Although employers indicated that there was some evidence that students were being prepared with employability skills, they also perceived that preparation was inadequate. A definite gap was detected between employers'' expectations and students' preparedness with employability skills. Educational and training institutions need to incorporate employability skills into the content of their curricula. The results of this study can be used in other Caribbean countries, which share a common history with Jamaica.

Current economic difficulties facing the Caribbean region have resulted from fundamental weaknesses (Miller, 1992). With increasing challenges in the Jamaican economy and the job market, Rowlands (1997) postulated that, people need to prepare themselves to deal with the higher levels of competition. The weakened position of young people in the labor market is a signal to national and educational leaders to create alternatives for youth.

Educators and national planners must recognize that changes in technology and work methods warrant a corresponding change in knowledge and skill requirements needed by workers. The Joint Trade Union Research and Development Center initiated a study in 1994 which revealed that 80% of Jamaica's population was unskilled. In the early 1990s, public policy debates laid the foundation for contemporary vocational education and examination of the transition from school to work in America. In the same way, Jamaica needs to begin a similar process of investigation into work-related issues directly impacting workers and the economy. George and Clark (1998) stressed that the Caribbean needs to do the necessary research to determine its manpower needs for industry and to implement short-, medium- and long-term plans to address them.

The dynamics of technology and complexity of work demand that educators and national planners take alternative approaches to educating and training workers of the 21st Century. A two-fold need is therefore created for research into what employability (basic) skills are necessary for workers in the 21st Century and how these requirements can be incorporated into national policies, and educational and training programs.

Purpose and Significance of the Study

The purpose of the study was to expand the knowledge base of the relationship among education, training, work, and economic development in Jamaica. The study sought to contribute to a better understanding of the theory related to the expectations of employers and how employees need to be prepared for the workforce of the 21st Century. Specifically the study focused on identifying the necessary skills and competencies needed by the present and future workforce and the extent to which employers agreed on the role of education and training institutions in preparing students for work and citizenship in a global economy. Finally the study evaluated the needs of employers, and their implications for training and development. A study of this nature is critical in reshaping the role of education and training institutions and should serve as a planning tool for the nation's educators and planners in determining the basic components of the curriculum, especially at the secondary and postsecondary levels.

Statement of the Problem

The problem addressed by this research was: (a) What are the requirements for a skilled workforce in the country of Jamaica, (b) What is the role of education and training in preparing workers for the 21st Century.

Research Questions

1. What factors influence changes in the Jamaican workforce?
2. What are employers' expectations of the Jamaican workforce?
3. What are employers' perceptions of the role of education and training in preparing the Jamaican workforce?
4. Is there a difference between employers' expectations and organization type?
5. What differences exist between employers' perception and organization type?
6. What is the relationship between employers' expectations and perceptions?
7. Is there a relationship between employers' expectations and their position in the company?
8. Is there a relationship between employers' perceptions and their position in the company?

Related Literature and Research

Education and the Economy

Miller (1992) reporting on a study of the Caribbean region and Jamaica in particular, posited that economic recession has accounted for the seeming lack of development and expansion in the region. He further stated that:

> The experience of the Caribbean over the past decade and a half is that the region's balance of payment problems have definitely constrained educational development at all levels, including basic education. Countries are now struggling to preserve the gains they have made. Unable to meet current challenges with new responses, they are faced with stagnation. (p. 36)

Coupled with the problems of basic education for all was the high unemployment rate in Jamaica. Globalization and technological advances impact developing countries and the Jamaican business environment was now characterized by mergers, downsizing, and closures. According to The Jamaica Gleaner, (March 25, 1999) and (1999, February 27, hundreds of employees were without jobs.

A World Bank Policy Paper (1991) on Vocational and Technical Education and Training reported that a competent and flexible workforce, which can learn and apply new skills as economies change is a necessary prerequisite for economic and social development. The level of competence of a nation's skilled workers is imbedded in the flexibility and productivity of its labor force. The primary challenge was using training capacities effectively to adequately train workers who would in turn use their skills efficiently in developing economies which are influenced by technological dynamism and international competition. "The upgrading of skills and knowledge is essential for economic growth" (Anderson, 1994, p. 1).

As a result of globalization of capital and technology; productivity and incomes in Europe, Japan and even some developing countries have converged on those of the United States (Committee for Economic Development, 1996). According to Bassi, Cheney and Lewis (1998), "the inextricable link between rapid technological change and the emergence of the global economy has created the necessity for profound change in the way people and organizations work" (p. 51). Labour Market Trends (1997) recorded that current developments in the economy are directly attributable to global and regional changes. Carnevale, Gainer, and Meltzer (1990) further charged that global competition is characterized by a volatile mix of demographic, economic and technical forces.

Referring to the shortage of skilled workers, Lee (1997) observed that in an environment rife with closures, downsizing, reengineering, outsourcing, mergers and acquisitions, many employees confront the realism of their situations – being expendable commodities. Lankard (1996) added that today's employers and society in general are facing the economic challenge of succeeding in a very competitive world market. Economic change should be used as the context for focusing on workplace issues (Blalock, 1995). Allen and Chadwick (1996) reported that Third World economies need a labor force that is well educated and trained to adapt to the rapid technological and social changes characteristic of our age. A report at the Interstate Conference of Employment Security Agencies (1991) confirmed that knowledge and skills would change as a response to technology and the economy.

A Skilled Workforce

The Jamaica Movement for the Advancement of Literacy (JAMAL) (1997), reporting on a survey of Jamaican employers, reported that the least literate employees were also unskilled. According to Vincloa (1998), "the ever-changing values of tomorrow's workforce have created unprecedented demands for flexible, diverse benefits and policies" (p. 71). Worker Profile of the 21st Century (1997) projected that the Jamaican worker of the 21st Century must be multi-skilled. The workforce needs to be reeducated for the high performance workplace where computer, interpersonal, basic and technical skills are essential for every employee regardless of their occupation (Kerekgyarto, 1997). The United States Department of Labor (1991) reported on the Secretary's Commission on Achieving Necessary Skills (SCANS) study and confirmed that five competencies of managing resources, interpersonal relations, information, systems and technology; and three-part foundation skills of basic and thinking skills and personal qualities were needed by employees in the present and future workforce.

The distinction between education and training has more or less vanished in the workplace as a result of changes in the nature of work and work requirements (McKenzie, 1995). In Training (1997) it was stated that "as Jamaica's economy changes, so does employment opportunities and job stability" (p. 2). Stanley (1996) emphasized that training should not be limited to prospective workers but should also be extended to adults in the workforce. Adults must be retrained to keep pace with the development of the nation and advances in the information- and technology-driven world economy. Wallhaus (1996) reported that employers, learners, and the general public are perceived to be placing increasing demands and expectations on colleges and universities to do a better job in preparing the workforce. The need for higher education is a worldwide reality which has not escaped Jamaicans (Adams, 1998).

Workforce Preparation (Role of Education and Training

Imel (1993) suggested that workforce education should "play an increasingly important role in enhancement and reinforcement of students' basic skills and in the practical application and use of higher-order skills" (p. 2). In order to prepare students for work, Hamby (1992) perceived that an organized, comprehensive approach to addressing the challenges of changes in the workforce, work environment and national priorities and policies must first be developed. Spille (1994) further posited that postsecondary curricula must emphasize generic employability skills. Rhodder and French (1999) remarked that many people have become uncomfortable with the apparent vagueness of the connections of some school-to-work programs and 'after school jobs'. In light of the present emerging information-oriented high tech occupational society, fundamental changes are needed in both the educational system and labor market to help persons make the transition from schooling to employment Hoyt (1993). Referring to the Jamaica, Honig (1996) suggested that:

> Human capital theorists hypothesize that education is an investment that yields higher wage compensation in return for individual variations of skills, training and experience. Taken to the national level, investment in education leads to economic growth. (p. 178)

Gyles (1998) concluded that the global thrust for education supports the notion that the more education people have; the better able they are to manage social, political, economic and spiritual problems.

Methodology and Procedures

This quantitative, non-experimental study was descriptive and investigative in nature. A self-developed instrument modeled after the United SCANS study was used to collect data on employability skills needed by employees as perceived by employers in Jamaica. Additionally, the questionnaire collected data on the role of education and training institutions in preparing the Jamaican workforce for the 21st Century. The instrument was tested for construct and content reliability and a Cronbach's reliability coefficient of .90 ($r = .90$) indicated a very high level of reliability.

The target population included managers, employment officers, personnel officers, and human resource officers in organizations throughout Jamaica. Organizations employed entry-level and other levels of workers on an ongoing basis. Employers were spread throughout the country although most of the organizations were concentrated in the Kingston Metropolitan region. A convenience sample of 250 employers in Jamaica was selected for this study. The dynamism in the existence of companies in the Jamaican economic environment influenced the choice of a convenience sample (Elmore and Woehlke, 1997). Although the findings were limited to sample selected, a cross-match of companies with the registrar of companies in Jamaica validated the sample as being a representative of Jamaican employers. The findings could therefore be applied to Jamaica and other Caribbean countries that share a common history with Jamaica. Surveys were hand-delivered in Kingston and mailed to employers in rural Jamaica. The response rate for the study was 98 (43.75%) employers.

Data collected through the questionnaire survey were analyzed through the Statistical Analysis System (SAS), Version 6.11 (1989-1996) at Southern Illinois University at Carbondale to address the eight research questions asked.

Findings

As a result of mergers and closures of, the sample size was reduced by 10%. The actual sample size was therefore 224. Table 1 presents the types of companies represented by respondents. The highest category was from service organizations, 25 (25%); followed by hotel and tourism organizations with 18 (18.4%).

Table 1
Respondents' Company Type

Type of Company	n	%
Service (include hospitals)	25	5.5
Hotel and Tourism	18	18.4
Manufacturing	12	12.2
Insurance	10	10.2
Other	10	10.2
Banking/Financial	9	9.2
Educational	5	5.1
Retail Trade	4	4.1
Agriculture	2	2.0
Construction/Architecture	2	2.0
Mining	1	1.0
Wholesale	0	0.0
Total	98	100.0

Research Question 1: What factors influence changes in the Jamaican workforce?

Eighty-five (86.8%) respondents perceived that insufficient jobs influenced changes in the workforce; followed by 84 (85.6%) indicating changes in skill requirements; 78 (79.6%) indicating global economic competition; 68 (69.4%) indicating focus shift to service oriented economy; and 52 (53.1%) indicating that workers' ability to keep pace with changes in technological advances accounted for changes in the Jamaican workforce.

Research Question 2: What are employers' expectations of the Jamaican workforce?

Employers were asked to rate on a four-point scale, the extent to which they perceived employability skills were necessary for the present and future workforce. Over 90% of respondents indicated that all the skills identified were absolutely necessary. Resources and Information skills were ranked the highest, 97 (99%); Personal Management, 95 (97%); Critical Thinking and Problem Solving, 94 (95.9%); Teamwork, 93 (94.8%); Communication, 92 (93.8%); and Academic skills, 91 (92.8%).

Research Question 3: What are employers' perceptions of the role of education and training in preparing the Jamaican workforce?

When asked to state the extent to which they perceived education and training to be adequately preparing students for the Jamaican workforce, student preparedness was most evident in academic skills, 78 (79.6%); followed by technology skills, 64 (65.3%); resources and information, and teamwork skills respectively, 58 (59.2%). Table 2 shows the rank ordering of composite scores on employers' perceptions.

Table 2
Results of Employers' Perceptions on Students' Preparedness (by rank order)

Employability Skills (Rank Order)	Evidence of Preparedness		No Evidence or No Opinion	
	n	%	n	%
Academic	78	79.6	20	20.4
Technology	64	65.3	34	34.7
Resources and Information	58	59.2	40	40.8
Teamwork	58	59.2	40	40.8
Communication	49	50.0	49	50.0
Critical Thinking and Problem Solving	40	40.8	58	59.2
Personal Management	37	37.8	61	62.2

Research Question 4: Is there a difference between employers' perceptions and their expectations?

Given 12 categories from which to select one, respondents were asked to identify the organization which best described their company. Although there were variations in the means, only teamwork skills expectations differed statistically on an ANOVA test with an F value of 2.27 and a probability of 0.02. A post hoc Tukey revealed that the differences were between construction/architectural companies and all others.

Research Question 5: Is there a difference between employers' perceptions of the role of education and training and organization type?

An ANOVA did not reveal any statistically significant differences between employers' perceptions and organization type.

Research Question 6: Is there a relationship between employers' expectations and their perceptions of the role of education and training?

To detect differences among the skill categories, the means and standard deviations were computed for each category of skills to determine the gaps between respondents' expectations and perceptions. Table 3 shows that mean differences ranged from a high of 1.2 for personal management and critical thinking and problem-solving skills to a low of 0.77 for academic (basic) skills.

Table 3
Mean Differences Between Employers' Expectations and Perceptions

Employability Skill	Expectation Mean	Expectation SD	Perception Mean	Perception SD	Mean Difference
Critical Thinking and Problem-Solving	3.87	0.38	2.67	0.49	1.20
Personal Management	3.88	0.36	2.68	0.44	1.20
Teamwork	3.83	0.47	2.71	0.50	1.12
Resources and Information	3.76	0.40	2.75	0.48	1.01
Communication	3.77	0.42	2.77	0.48	1.00
Technology	3.75	0.47	2.81	0.57	0.94
Academic	3.70	0.52	2.93	0.44	0.77

Research Question 7: Is there a relationship between employers' expectations and their position in the company?

Table 4 shows that ANOVA results revealed significant differences for communication, critical thinking and problem solving personal management, teamwork, and resources and information skills at the Alpha 0.05 level of significance.

Table 4
Differences Among Employers' Expectations According to Their Position in the Company

Employability Skills	Df	SS	MS	F	P
Academic (Basic)	3	1.6364517	0.5454839	2.05	0.11
Communication	3	1.5336968	0.5112323	3.11	0.03*
Critical Thinking * Problem- Solving	3	2.3108440	0.7702813	6.26	0.00*
Personal Management	3	1.9759378	0.6586459	5.78	0.01*
Teamwork	3	2.1008345	0.7002782	3.31	0.02*
Resources and Information	3	1.3463386	0.4487795	2.89	0.04*
Technology	3	1.5567545	0.5189182	2.45	0.07

Note: *$p<0.05$

Post hoc Tukey tests further revealed that the differences were between 'Other' position types and personnel managers, department managers and company managers for communication skills, critical thinking skills and problem-solving skills, and personal management skills.

Research Question 8: Is there a difference between employers' perceptions of the role of education and training and their positions in the company?

ANOVA tests revealed significant differences at the Alpha 0.05 level for personal management, teamwork and resources and information skills. Post hoc Tukey test produced significant differences between company managers and other employers on personal management skills. ANOVA was also computed to determine the overall differences between employers' expectations and perceptions according to their positions. There was no significant difference in perceptions but a significant difference was detected at the 0.0048 level of significance on their expectations. A post hoc Tukey test revealed differences between other employers and company managers and other managers.

Conclusions

Based on the data analysis and findings of this study, the following conclusions are presented:

1. Global economic competition, technological advances, shift to service-oriented economy and changes in skill requirements of workers all influence changes in the Jamaican workforce.

2. Academic (basic), communication, critical-thinking and problem solving, personal management, teamwork, resources and information and technology skills are all necessary for the workforce of the 21st Century.
3. Although there is some indication that education and training institutions are preparing students with employability skills, there is equal evidence to suggest that students are not being adequately prepared with employability skills.
4. Employability skills instructions should be a part of Jamaica's educational/training system.
5. Construction/architectural companies differ from other companies on their expectations of teamwork skills.
6. Significant differences exist between what employers consider necessary and how adequately they perceive workers to be prepared on critical thinking and problem solving, teamwork, resources and information and communication skills.
7. The need for research into entry-level employee needs is necessary for developing training programs which link training with the work world.
8. Although Jamaica is a developing country, workplace needs do not differ from those of developed countries such as the United States and Canada.

Recommendations

Economic Growth and Development

1. Government policies need to include more opportunities for employees who have lost their jobs to be retrained for new (multi-skilled) jobs.
2. Government needs to evaluate the economy in terms of which industries are productive and are likely to grow and broaden the scope for training and employment in those areas.
3. Educational policies must include basic education for all children.
4. The national policy on education should include a workplace education curricula for grades one through 10 (Primary through high/secondary school) to equip youth with knowledge, attitudes and skills necessary for the workplace in a variety of occupational clusters.

Education and Training

Education and training institutions need to:

1. Institute basic literacy programs and certify basic employability skills acquisition to ensure that employers' needs are met.
2. Conduct ongoing needs analysis of the Jamaican labor market in order to ensure that workforce requirements are satisfied.
3. Use a variety of teaching methods and procedures, and include more application in acquiring employability skills required by employers.
4. Ensure that training is relevant to the needs of the work world. The skills identified in this study should be incorporated into training programs.
5. Incorporate local and international economic changes into training programs accordingly.
6. Build work experience into training programs so that students relate to the world of work before they are actually employed.
7. Establish partnerships with employers, government agencies and other institutions in order to maintain currency and to further strengthen linkages among education, training and work.
8. Ensure articulation of all levels of education and training programs in order to promote smooth transition from lower levels of education (primary school) to higher levels (university) and then into the workplace.
9. Use the results of this study to guide further research and to develop and implement programs that will close the gaps between employers' expectations and perceptions.
10. Develop curricula that prepare people for work. Such programs should include work ethics and attitudes. Employers surveyed reported grave concerns about workers' attitude towards work and coworkers.

Further Research

1. Further research for each organization type needs to be done in order that occupational training programs are kept current and relevant
2. A similar study needs to be conducted in other Caribbean countries especially in those countries, which prepare students for the Caribbean Examination Council (CXC) examination. This would help to identify common skill requirements, which can be further, incorporated into regional courses and examinations. This would also be useful for tertiary institutions in Jamaica as students from other Caribbean countries are trained for employment in countries other than Jamaica.
3. A study investigating the linkages among education and training programs in primary, secondary, high schools and college should be conducted to ensure articulation and cohesiveness in the national education system. Results of such study could further be evaluated against employers' requirements to establish a functional school-to-work program.
4. Research should be conducted on the impact of technology on education and how efficiently and effectively technology programs (e.g. Introductory skills) could be implemented especially in the primary schools.

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PERCEPTIONS OF TECHNICAL EDUCATION PROFESSIONALS REGARDING THE PURPOSES OF TECHNICAL EDUCATION PROGRAMS IN ZIMBABWE'S SECONDARY SCHOOLS

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This study sought to establish and compare the perceptions of program implementors (vocational teachers, teacher educators, and program managers) regarding the purpose of the vocational education program in secondary schools. Data for this study were collected in Zimbabwe, using a 40-item researcher designed questionnaire. Respondents indicated the extent to which they perceived each of the stated purposes of vocational education was currently emphasized in the program and the extent to which each of the same stated purposes they perceived to be ideally emphasized in the program. Substantial to extreme differences were found on the groups' perceptions as the program currently operates, while substantial to slight differences were found on the groups' perception of the program as it should ideally operate. The study recommends that the Ministry of Education 1) checks for sources of mixed messages in vocational education policy documents, and 2) consider changing the future purpose of the program or changing the vocational educators perceptions toward the purpose of high school vocational education programs through national debates, training seminars or conferences.

Over the years, education, particularly vocational education has been seen as a tool for servicing the developmental needs of society. Education philosophers who believe this, feel the social, political and economic world outside the school can be changed, if not completely, then partly, by introducing vocational education in the content of education (Mandebvu, 1989). Many countries have introduced vocational education as part of the formal school system but, according to Strong (1990), the most debated issue, particularly at the secondary school level, has been the purpose of vocational education.

Vocational education programs at the secondary school level serve numerous purposes. The purposes range from narrow skill training, aimed at providing individuals with occupational skills for employment in specific jobs or a cluster of jobs to enhancing general education (Bottoms, 1989; Little, 1992; Miller, 1985). Traditionally, training received in high school vocational education programs provided the skills and competencies necessary for gainful employment upon completion of the program (Burnett, Harrison & Miller, 1984). However, several studies indicate a large number of former students of vocational education programs entering occupations not related to their specific area of training received (see studies by Bass, 1969; Hayles, 1963; Edington & Hill, 1964; Kotrlik, 1980; Lamers, 1971, as cited in Burnett et al., 1984). In addition, technology in industry has developed from the artisan-craftsman stage, with emphasis upon manual skills, to the factory system operated and controlled by man (McClurkin, 1996). This has led to increasing demand that the workforce be multi-skilled and capable of learning new skills more rapidly (Brand, 1992).

Developed and developing countries, have responded to the trend in industry by shifting the focus of vocational education programs from labor-specific programs to vocational education programs of a general nature. However, the strategies for implementing the shift in program focus have varied from one country to another. In Zimbabwe, the same professionals for the labor-specific program are implementing the new program. The professionals were not retrained despite the expressing need (Nyagura & Reece, 1990), thereby making the implementation strategy questionable. As in many instances, such an implementation strategy has created confusion among educators to the extent that they are uncertain of their role (Strong, 1990). Since program implementors (vocational educators in this case) can greatly influence the curriculum offered and/or followed in the schools, having implementors who are unsure of their role is detrimental to the success and development of an educational program (Schumacher & Kahler, 1989). Therefore, if any growth of the program is to be expected, and if the new program is to implemented effectively, it is important to establish whether Zimbabwe's vocational education professionals share a common understanding of the purpose of the vocational education program they are implementing.

Purpose of Study

The purpose of this study was to establish and compare the perceptions of three groups of vocational education professionals in Zimbabwe (vocational teachers, vocational teacher educators, and program managers for high school vocational programs) regarding the purposes of high school vocational education programs in Zimbabwe. Specifically, the study sought to:

1. Determine the current emphasis placed on each of the stated purposes of vocational education as perceived by each group of vocational education professionals.
2. Determine the emphasis which should ideally be placed on each of the stated purposes of vocational education as perceived by each group of vocational education professionals.
3. Compare the perceptions of the three groups of vocational education professionals regarding the purposes of vocational education programs in high school.

Methodology

The target population for this study was vocational education professionals (vocational education teachers, teacher educators, and program managers for high school vocational education programs). The vocational teachers were all from one district while the teacher educators were from three technical teacher colleges in Zimbabwe. The sub-population for program managers included all secondary school vocational education program managers from every educational region in Zimbabwe. Data for this study were collected in Zimbabwe from 452 two vocational education professionals (397 high school vocational teachers, 39 teacher educators, and 16 vocational program managers).

The data were collected using a 40-item researcher-designed, closed-form questionnaire with a Likert-type scale, and through informal interactions with respondents. The questionnaire had two sections to determine the current and ideal emphasis. Each of the sections had 20 statements on purposes of vocational education (ten general education items and ten technical education items). In the ideal emphasis section, the statements of purposes were reordered to avoid influencing the respondents' choices. Content validity for the instrument was established using a panel of experts. Respondents rated the extent to which they perceived each of the stated purposes of vocational education to be currently or ideally emphasized in the high school vocational education program, according to the following five point scale: "1 = Not emphasized;" "2 = Slightly emphasized;" "3 = Somewhat/moderately emphasized;" "4 = Emphasized;" and "5 = Strongly emphasized." The questionnaire was hand delivered to the vocational teachers and teacher educators, and was mailed to the program managers.

Results

Current Purposes as Perceived by the Vocational Educators

Table 1, presents the mean responses and ranking (in parentheses) for each item regarding current purposes of vocational education, as perceived by the three groups of vocational educators. In terms of the highest rated items, the vocational teachers rated the following: "Develop in students an interest towards trade or craft oriented work" (mean = 4.47); and "Develop a high degree of skill in the use of basic tools for your trade (mean = 4.45). One of these was a general education item and one was a technical education item. The teacher educators also rated the same item as their highest item. The program managers rated the same top three items as the vocational teachers but second and third ranked.

Table 1

Mean Responses, Ranks and Degrees of Differences on Current Purposes

Item	Purpose of Vocational Education	Mean Response[b] & Rank for Each Item			
		Teach[c]	Educ[d]	Mgr[e]	Diff[f]
5(G)	Develop in students an interest towards trade or craft oriented work	4.47 (1)	3.82 (1)	4.31 (2)	0.65
13(T)	Develop a high degree of skill in the use of basic tools for your trade	4.45 (2)	3.69 (4)	4.00 (3)	0.83
4(G)	Develop technical skills of a general nature such as measuring, planning, drawing etc.	4.36 (3)	3.72 (2)	4.56 (1)	0.84***
18(T)	Develop technical skills to a degree where the students are self-reliant.	4.28 (4)	2.97(17)	3.31(12)	1.31****
1(G)	Provide career education to assist students in making informed and meaningful occupational choices.	4.25 (5)	3.13(10)	3.50(19)	1.12****
20(T)	Prepare students for enrollment in highly skilled post secondary school technical education programs.	4.15 (6)	3.56 (5)	3.69 (7)	0.59**
15(T)	Develop safety skills related to a specific occupation.	4.09 (7)	3.72 (3)	3.50 (8)	0.59**
3(G)	Develop human relation skills that will enable students to work cooperatively with others in various fields.	4.08 (8)	.23 (7)	3.44(10)	0.85***
6(G)	Develop general problem solving skills related to job situations.	4.05 (9)	3.18 (9)	3.13(14)	0.92***
12(T)	Develop in students basic home skills useful in the home or for leisure use	3.94(10)	3.03(13)	3.75 (4)	0.91***
19(T)	Develop highly specialized technical skills necessary for the production of precise finished products	3.91(11)	2.87(19)	3.13(15)	0.78***
11(T)	Develop manipulative skills for the purpose of fitting persons in specific industries	3.77(13)	3.00(15)	3.69 (6)	0.77***
16(T)	Develop specific employment skills needed to enter a particular occupational field	3.74(15)	3.23(8)	3.75 (5)	0.52**
10(G)	Provide basic theoretical knowledge on key materials commonly used in Zimbabwean industries	3.76(14)	3.05(12)	3.78(11)	0.73**
2(G)	Provide opportunities for the application of science and mathematics concepts in the technical fields	3.79(12)	3.10(11)	2.44(19)	1.35****
9(G)	Provide consumer knowledge that enables students to be wise consumers of industrial products	3.70(16)	2.82(20)	3.19(13)	0.88***
8(G)	Develop general technical skills applicable to various occupational clusters	3.54(17)	3.00(14)	2.88(16)	0.66**
7(G)	Provide occupational information pertaining to a broad range of occupations	3.52(18)	3.31 (6)	2.81(17)	0.71**
17(T)	Provide exploratory experiences related to current practices in a specific business or industry	3.42(19)	2.95(18)	2.56(18)	0.86***
14(T)	Develop technical expertise in the operation of power driven machines used in related industries	3.36(20)	3.00(16)	2.13(20)	1.23****

[a] (G) = General education item, (T) = Technical education item

[b] Mean response on a 1 to 5 scale: 5 = Strongly emphasized; 4 = Emphasized; 3 = Somewhat/moderately emphasized; 2 = Slightly emphasized; 1 = Not emphasized;

[c] Vocational Teachers, [d] Teacher Educators, [e] Program Managers

[f] Diff = Greatest Degree of Practical Significant Difference

* Slight or low difference, ** Substantial difference, *** High difference, **** Extreme difference

In terms of least emphasized purposes, the vocational teachers perceived the following three items: "Provide exploratory experiences related to current practices in a specific business or industry" (mean = 3.42); and "Develop technical expertise in the operation of power driven machines used in related industries" (mean = 3.36). The teacher educators also perceived "Provide consumer knowledge that enables students to be wise consumers of industrial products" (mean =2.82), and "Develop highly specialized technical skills necessary for the production of precise finished products" (mean =2.87) to be least emphasized. The program managers rated least the same item as the vocational teachers, and "Provide opportunities for the application of science and mathematics concepts in the technical fields" (mean = 2.48). While the ranking of the items (Table1, in parentheses) may vary from one group to another, the ten highest and least rated items as the program currently operates were almost the same for each group.

Ideal Purposes of the Vocational Education Program

Table 2. presents the mean responses and ranking (in parenthesis) for each item regarding the ideal purposes of vocational education. The vocational teachers rated highest the following two items: "Develop technical skills to a degree where the students are self-reliant (mean = 4.63); and "Develop a high degree of skill in the use of basic tools for your trade" (mean = 4.56). Both items were of a technical nature. The teacher educators also rated highest the same item as the vocational teachers, and in second place rated: "Develop general problem solving skills related to job situations" (mean = 4.58). The program managers' rated highest "Prepare students for enrollment in highly skilled post secondary school technical education programs" (mean = 4.81) and in second highly place, the same purpose as the vocational teachers' second choice.

On purposes perceived to be least ideal for the vocational program, the vocational teachers perceived: "Develop in students basic home skills useful in the home or for leisure use" (mean = 4.04); "Provide occupational information pertaining to a broad range of occupations" (mean = 4.00), and "Develop general technical skills applicable to various occupational clusters" (mean = 3.93). These items were the same the program managers perceived least ideal. The teacher educators perceived to be least ideal "Provide exploratory experiences related to current practices in a specific business or industry" (mean =4.03) in addition to two of the items identified by the vocational teachers (see Table 2). All the means had slight or substantial differences.

Comparison of Mean Responses for Each Item by Groups

The third objective compared the perceived purposes for the three groups of vocational educators. This was accomplished by comparing the mean ratings for each of the groups. However, since two of the three groups were populations and one was a sample, the use of the analysis of variance procedure would have been questionable. In addition, comparisons were to be made on a total of 40 items and the use of ANOVA would have created an unacceptably high level of inflation of experimentwise error. Therefore, the researcher chose as a preferred procedure the establishment of a scale of substantive significant differences. The use of scales of practical significance is well supported in the literature (Gold, 1969; Hays,1963; and Saladaga, 1981, as cited in Burnett, et al., 1984). The scale used in this study was developed as follows: 00 to .25 = None or negligible differences; .26 to .50 = Slight or low differences; .51 to .75 = Substantial difference; .76 to 1.00 = High difference; and 1.01 or higher = Extreme difference.

For the current emphasis perceptions, the items found to have the highest degree of difference among the groups were: "Provide opportunities for the application of science and mathematics concepts in the technical fields (difference = 1.35); "Develop technical skills to a degree where students are self reliant" (difference = 1.31); and "Develop technical expertise in the operation of power driven machines used in related industries" (difference = 1.23); and "Provide career education to assist students in making informed and meaningful occupational choices" (difference =1.12). On all four of these items, the vocational teachers rated the item highest while the lowest rating was offered by the teacher educators for two of the items and program managers on the other two items (see Table 1). Overall, four items had differences that were classified as extreme differences, nine items had differences classified as high, seven items had differences classified as substantial.

Table 2
Mean Responses, Rank and Degrees of Differences for Ideal Purposes

Item [a]	Purpose of Vocational Education	Mean Response[b] & Rank for Each Item			
		Teach[c]	Educ[d]	Mgr [e]	Diff [f]
8(T)	Develop technical skills to a degree where the students are self-reliant	4.63 (1)	4.61 (1)	4.56 (5)	0.07*
3(T)	Develop a high degree of skill in the use of basic tools for your trade	4.56 (2)	4.41 (6)	4.75 (2)	0.34**
11(G)	Provide career education to assist students in making informed and meaningful occupational choices	4.44 (3)	4.55 (4)	4.63 (4)	0.19*
10(T)	Prepare students for enrollment in highly skilled post secondary school technical education programs	4.42 (4)	4.40 (7)	4.81 (1)	0.41**
15(G)	Develop in students an interest towards trade or craft oriented work	4.48 (5)	4.55 (3)	4.63 (3)	0.15*
1(T)	Develop manipulative skills for the purpose of fitting persons in specific industries.	4.40 (6)	4.16(15)	4.56 (7)	0.40**
5(T)	Develop safety skills related to a specific occupation	4.37 (7)	4.53 (5)	4.06(17)	0.47**
13(G)	Develop human relation skills that will enable students to work cooperatively with others in various fields	4.33 (8)	4.34 (8)	4.31(10)	0.03*
16(G)	Develop general problem solving skills related to job situations	4.32 (9)	4.58 (2)	4.19(13)	0.39**
14(G)	Develop technical skills of a general nature such as measuring, planning, drawing etc	4.28(10)	4.11(17)	4.06(14)	0.22*
9(T)	Develop highly specialized technical skills necessary for the production of precise finished products	4.28(11)	4.18(12)	4.06(16)	0.22*
6(T)	Develop specific employment skills needed to enter a particular occupational field	4.26(12)	4.21(11)	4.56 (8)	0.35**
20(G)	Provide basic theoretical knowledge on key material commonly used in Zimbabwean industries	4.17(13)	4.16(13)	4.25(11)	0.09*
7(T)	Provide exploratory experiences related current practices in a specific business or industry	4.12(14)	4.03(18)	4.06(15)	0.09*
19(G)	Provide consumer knowledge that enables students to be wise consumers of industrial products	4.11(15)	4.16(14)	4.31 (9)	0.20*
4(T)	Develop technical expertise in the operation of power driven machines used in related industries	4.07(16)	4.24(10)	4.25(12)	0.18*
12(G)	Provide opportunities for the application of science and mathematics concepts in the technical fields	4.07(17)	4.24 (9)	4.25 (6)	0.18*
2(T)	Develop in students basic home skills useful in the home or for leisure use	4.04(18)	3.57(20)	3.81(19)	0.47**
17(G)	Provide occupational information pertaining to a broad range of occupations	4.00(19)	4.11(16)	3.81(18)	0.30**
18(G)	Develop general technical skills applicable to various occupational clusters	3.93(20)	3.87(19)	3.56(20)	0.37**

[a] (G) = General education item, (T) = Technical education item;
[b] Mean response on a 1 to 5 scale: 5 = Strongly emphasized; 4 = Emphasized; 3 = Somewhat/moderately emphasized; 2 = Slightly emphasized; and 1 = Not emphasized;
[c] Vocational teachers, [d] Teacher Educators, [e] Program Managers
[f] Diff = Greatest Degree of Practical Significant Difference
* Slight or low difference, ** Substantial difference, *** High difference, **** Extreme difference

For the ideal emphasis perception, the items found to have the highest degree of differences among the groups were: "Develop in students basic home skills useful in the home or for leisure use" (difference =0.47); "Develop safety skills related to a specific occupation" (difference =0.47); "Prepare students for enrollment in highly skilled post secondary school technical education programs" (difference = 0.41); and "Develop manipulative skills for the purpose of fitting persons in specific industries (difference = 0.40). The vocational teachers and teacher educators rated one item highest while the program managers rated two items highest. The teacher educators rated three items lowest and the program managers one of the items. Overall, eleven items had differences in negligible category (.00 - .25), and nine in the slight or low difference category (.26 - .50), (see Table 2).

In examining the data, the researcher were concerned that the differences that were identified may have been the result of the application of the response scale rather than differences in perceptions. Therefore, to further examine the data in an attempt to determine if patterns of response were highly consistent, the mean ratings for each of the twenty items were rank ordered and the rankings correlated using the Spearman Rank Order correlation coefficient. It was felt that if the ranking among the groups were highly correlated (r = .70 or higher using Davis'descriptors) this would be an indication that the patterns of response in the data were consistent even if a number of differences were found in the mean ratings. The correlation found between the items rankings based on the ratings by the teachers and teacher educators was r =.60; teachers and managers r = .71; educators and managers r =.60. The same was done for the ideal items and the following correlations were found between the ratings by the teachers and educators r = .74; teachers and managers r = .71, and between the teacher educators and program managers r = .63.

Conclusions and Implications

Both the general curriculum and technical skills component items were among the highest rated items in the current perception. In addition, the mean ratings for the current purpose items for each group of educators show greater differences than the ideal items. This result indicates an existence of differences in perceptions among the groups of educators on the current program purpose. Therefore, the Ministry of Education in Zimbabwe needs to check for sources of possible mixed messages in the policy documents. Since, the professionals perceive the ideal purposes of the vocational program to be technical (based on the highest and least rated items)this observation might be reflecting the lack of re-training or re-orientation of the educators for the new program. This situation calls for the policy makers to either change the future purpose of the program or change the vocational educators perception toward the new program through national debates, training seminars or workshops. Such consultations and/or interventions are important and necessary for the success of the new vocational education program.

The research methodology used and results obtained can be of use to other vocational education systems in developing countries that are facing issues of program purpose and decision making processes. The results from this study are important for the organization and smooth operation of education systems, especially the following lessons can be learnt: 1) Measuring the current program emphasis can help adjust the current or short term program direction; and 2) Measuring the ideal program emphasis can help make consensus decisions on future programming needs.

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